

# Temperatures in Five Tributary Streams and the Middle River, and Data From one Meteorological Station; in the Stuart-Takla Watershed, 1996-1999

Bruce C. Andersen

Fisheries and Oceans Canada  
Science Branch, Pacific Region  
Pacific Biological Station  
Nanaimo, B.C. V9R 5K6

2000

Canadian Data Report of  
Fisheries and Aquatic Sciences 1061



Fisheries and Oceans  
Canada  
Science

Pêches et Océans  
Canada  
Sciences

Canada

## **Canadian Data Report of Fisheries and Aquatic Sciences**

Data reports provide a medium for filing and archiving data compilations where little or no analysis is included. Such compilations commonly will have been prepared in support of other journal publications or reports. The subject matter of data reports reflects the broad interests and policies of the Department of Fisheries and Oceans, namely, fisheries and aquatic sciences.

Data reports are not intended for general distribution and the contents must not be referred to in other publications without prior written authorization from the issuing establishment. The correct citation appears above the abstract of each report. Data reports are abstracted in *Aquatic Sciences and Fisheries Abstracts* and indexed in the Department's annual index to scientific and technical publications.

Numbers 1 - 25 in this series were issued as Fisheries and Marine Service Data Records. Numbers 26 - 160 were issued as Department of Fisheries and the Environment, Fisheries and Marine Service Data Reports. The current series name was introduced with the publication of report number 161.

Data reports are produced regionally but are numbered nationally. Requests for individual reports will be filled by the issuing establishment listed on the front cover and title page. Out-of-stock reports will be supplied for a fee by commercial agents.

## **Rapport statistique canadien des sciences halieutiques et aquatiques**

Les rapports statistiques servent à classer et à archiver les compilations de données pour lesquelles il y a peu ou point d'analyse. Ces compilations auront d'ordinaire été préparées à l'appui d'autres publications ou rapports. Les sujets des rapports statistiques reflètent la vaste gamme des intérêts et des politiques du ministère des Pêches et des Océans, c'est-à-dire les sciences halieutiques et aquatiques.

Les rapports statistiques ne sont pas destinés à une vaste distribution et leur contenu ne doit pas être mentionné dans une publication sans autorisation écrite préalable de l'établissement auteur. Le titre exact paraît au-dessus du résumé de chaque rapport. Les rapports statistiques sont résumés dans la revue *Résumés des sciences aquatiques et halieutiques*, et ils sont classés dans l'index annuel des publications scientifiques et techniques du Ministère.

Les numéros 1 à 25 de cette série ont été publiés à titre de relevés statistiques, Services des pêches et de la mer. Les numéros 26 à 160 ont été publiés à titre de rapports statistiques du Service des pêches et de la mer, ministère des Pêches et de l'Environnement. Le nom actuel de la série a été établi lors de la parution du numéro 161.

Les rapports statistiques sont produits à l'échelon régional, mais numérotés à l'échelon national. Les demandes de rapports seront satisfaites par l'établissement auteur dont le nom figure sur la couverture et la page du titre. Les rapports épuisés seront fournis contre rétribution par des agents commerciaux.

**Canadian Data Report of  
Fisheries and Aquatic Sciences 1061**

**2000**

**TEMPERATURES IN FIVE TRIBUTARY STREAMS AND THE MIDDLE RIVER,  
AND DATA FROM ONE METEOROLOGICAL STATION; IN THE  
STUART-TAKLA WATERSHED, 1996-1999**

**by**

**Bruce C. Andersen**

**Fisheries and Oceans Canada  
Science Branch, Pacific Region  
Pacific Biological Station  
Nanaimo, British Columbia V9R 5K6**

©Minister of Public Works and Government Services Canada 2000  
Cat. No. Fs 97-13/1061E ISSN 0706-6465

Correct citation for this publication:

Andersen, B. C. 2000. Temperatures in five tributary streams and the Middle River, and data from one meteorological station; in the Stuart-Takla watershed, 1996-1999. Can. Data Rep. Fish. Aquat. Sci. 1061: 79 p.



## ABSTRACT

Andersen, B. C. 2000. Temperatures in five tributary streams and the Middle River, and data from one meteorological station; in the Stuart-Takla watershed, 1996-1999. Can. Data Rep. Fish. Aquat. Sci. 1061: 79 p.

This report presents water temperature and meteorological data collected as part of the Takla Fisheries/Forestry Interaction Project. These studies focus on the effects of forest practices on interior fish stocks and the habitat which they occupy.

Water temperature data in this report was collected from the Middle River, and Kynoch, Forfar, Gluskie, Bivouac, and Leo creeks for the period May, 1996, to September, 1999.

Meteorological data was collected during the summer periods (April-September), 1996 to 1999.

## RÉSUMÉ

Andersen, B. C. 2000. Temperatures in five tributary streams and the Middle River, and data from one meteorological station; in the Stuart-Takla watershed, 1996-1999. Can. Data Rep. Fish. Aquat. Sci. 1061: 79 p.

Le rapport présente des données météorologiques et des données sur la température de l'eau recueillies dans le cadre du projet sur l'interaction pêches/forêts dans la Takla. Les études menées visent les effets des pratiques forestières sur les stocks de poisson des eaux intérieures et l'habitat qu'ils occupent.

Les données sur la température de l'eau ont été recueillies entre mai 1996 et septembre 1999 dans la rivière Middle et dans les criques Kynoch, Forfar, Gluskie, Bivouac et Leo.

Les données météorologiques ont été recueillies pendant l'été (avril à septembre) de 1996 à 1999.

## FIGURES and TABLES

	Page no.
Figure 1. Location of study tributaries in the Upper Stuart-Takla watershed. Data logger stations and main logging roads are shown. ....	5
Table 1. Meteorological data south end Takla Lake. ....	7 - 16
Table 2. Water temperatures (°C) Gluskie, Forfar, and Kynoch creeks. ....	17 - 37
Table 3. Water temperatures (°C) Bivouac and Leo creeks, and Middle River ....	38 - 58
Table 4. Water temperatures (°C) Forfar and Kynoch creeks, off-channel stations. .	59 - 79

## INTRODUCTION

In 1990, the Science Branch of Fisheries and Oceans Canada (Pacific Region) moved most of its research on the effects of forest harvesting practices on fish stocks and fish habitat from the coast to the interior of British Columbia. In August, 1990, a major long-term fish/forestry research project was initiated on selected tributaries of the Stuart-Takla watershed. A detailed description of the Stuart-Takla Fisheries/Forestry Interaction Research Project is presented in Macdonald et al. 1992.

This report presents 1996 to 1999 data for stream temperature from five tributaries, water temperature from off channel sites of two tributaries, water temperature from the Middle River; and air temperature, precipitation, and solar radiation from a meteorological station near the south end of Takla Lake. The data record in this report ends in mid-September, 1999.

Except for the Middle River, the data in this report are a continuation of data (1990-1996) previously reported in Andersen and Macdonald 1997. Some of the data in this and the previous report have been used in papers published in proceedings from workshops and conferences (Macdonald 1994; Macdonald et al. 1998). Data will be further analysed and used in future publications.

## STUDY LOCATIONS and OPERATIONAL DATES

The Takla Lake/Middle River drainage basin is the most northern extent of the Fraser River watershed (Fig. 1). Bivouac and Gluskie creeks flow northeast into lower Takla Lake, and Forfar and Kynoch creeks flow northeast into the upper portion of Middle River. Leo Creek flows in a southwesterly direction and enters lower Takla Lake opposite Bivouac Creek (Fig. 1). Details of the physical features and locations of the study areas are available in Macdonald et al. 1992.

The main data logging sites (Fig. 1) in four of the tributaries were located within 20 m upstream of the logging road bridges. Before the main data logging sites on Gluskie and Forfar creeks were established in October, 1991, data were recorded, starting in August, 1990, from initial sites (Fig. 1) downstream of the bridges (Gluskie Creek 210 m and Forfar Creek 1350 m downstream). Kynoch (also known as O'Ne-eil) Creek station was established in October, 1991, and Bivouac Creek station in April, 1994. The Leo Creek station was established 60 m upstream of the railroad bridge in April, 1995, and relocated, due to beaver dam construction, to a position 125 metres upstream of the logging road bridge on September 25, 1998.

During the summers data loggers recorded water temperature data at two off-channel sites. These sites (Fig. 1) were located on the south side of the creeks; Forfar Creek lower off-channel site (1996-1999) was 400 m upstream from the Middle River and 50 m from the main creek channel and Kynoch Creek off-channel site (1996-1998) was 400 m upstream from the Middle River and 75 m from the main creek channel. A data logger at an upper off-channel site on Forfar Creek (300 m downstream of the logging road bridge and 8 m from the main channel) recorded data during the summer of 1995 and year round starting in April, 1996.

The meteorological station was established in June, 1991, but was only operated during the summer periods (April-October). It was located 25 m from the Middle River at a Fisheries and Oceans Canada field camp (Fig. 1).

Starting on April 29, 1996, Middle River water temperatures were recorded year round from the floating dock at the Fisheries and Oceans Canada field camp.

**Latitudes and longitudes of data logging sites:**

<u>Tributary</u>	<u>Site</u>	<u>Latitude</u>	<u>Longitude</u>
Kynoch	main station	N 54° 59.585'	W 125° 24.058'
Kynoch	off-channel	N 54° 59.970'	W 125° 23.622'
Forfar	main station	N 55° 01.867'	W 125° 28.308'
Forfar	initial (90-91)	N 55° 02.473'	W 125° 28.073'
Forfar	off-channel upper	N 55° 02.037'	W 125° 28..300'
Forfar	off-channel lower	N 55° 02.505'	W 125° 28.005'
Gluskie	main station	N 55° 03.218'	W 125° 30.815'
Gluskie	initial (90-91)	N 55° 03.277'	W 125° 30.887'
Bivouac	main station	N 55° 04.168'	W 125° 34.523'
Leo	original station	N 55° 05.374'	W 125° 34.730'
Leo	relocated 09/25/98	N 55° 05.502'	W 125° 34.818'
<u>Meteorological station</u>		N 55° 03.382'	W 125° 30.335'
<u>Middle River water temp. stn.</u>		N 55° 03.457'	W 125° 30.250'

## METHODS

Most of the data were acquired with Unidata's Starlog data logging systems. Stream temperature data were acquired using Unidata's model 6003B logger with 64K memory capacity, and attached model 6507A thermistors with 15k ohm resistors and accuracy of  $\pm 0.2^{\circ}\text{C}$ . The thermistor wires were connected to the loggers via a field termination strip, model 6103-1. Loggers and termination strips were installed in weatherproof enclosures, model 6701B, and then mounted on trees or posts at each recording site. All wires were armoured to protect them from being severed by wildlife. To maintain battery operation during the cold winters ( $-40^{\circ}\text{C}$ ), the loggers were packed in containers and buried in the stream bank. The earth and snow covering acted as insulation and maintained operating temperatures above freezing throughout the winter.

At each station two thermistors were used to record water temperatures from the same location. On each station visit water temperatures were taken using a hand held, calibrated, mercury-filled thermometer. On occasions when the recordings, from both thermistors, did not agree with the calibrated thermometer, logger data was edited for the needed corrections. When a data logging station failed completely, nearby data loggers provided the necessary replacement data.

At the meteorological station ambient temperature and global solar radiation data were logged using a stand alone weather instrument (Unidata's model 6507D, with accuracy; radiation  $\pm 5\%$ , temperature  $\pm 0.5^{\circ}\text{C}$ ). Precipitation data were logged using Unidata's model 6506A tipping bucket rainfall gauge (accuracy  $\pm 4\%$ ). The data logger and temperature sensor were mounted inside a standard Atmospheric Environment Service type louvered instrument shelter.

At the Leo Creek water temperature station, Vemco's model Minilog-TR data logger, with accuracy of  $\pm 0.2^{\circ}\text{C}$  and range of  $-4^{\circ}\text{C}$  to  $20^{\circ}\text{C}$ , replaced the Unidata system from October, 1995, to April, 1996 and from September, 1998 to September, 1999.

Middle River water temperature data was acquired using a Vemco Minilog-TR data logger attached to the Fisheries and Oceans Canada field camp's floating dock at a depth of 1 m from the water surface.

The Unidata data loggers acquired readings every 5 seconds and recorded the average of the readings for every 60-minute period, except for the meteorological station, which recorded data every 15 minutes. The Vemco data loggers recorded one data point every 60 minutes.

All data were downloaded, four or five times annually, to a laptop computer using the loggers' software packages; edited using Microrim's R:Base software; and exported, as daily maximums, minimums, and averages, to ASCII files. Final tables were produced using Borland's Quatro Pro 4 software.

Co-ordinates (latitude/longitude) of the sites were obtained from the Global Positioning System using Garmin's model 12XL receiver with an accuracy of  $\pm 15$  m.

## RESULTS

All results are contained in Tables 1 to 4.

Occasionally, equipment failure and flooding resulted in lost temperature data. In most situations these lost data were replaced using data from nearby data logging stations. Analysis of data from the main stations and nearby loggers showed no significant temperature differences when both loggers were accurately recording data for the same time period.

In Kynoch Creek the sensors were buried on three occasions; 07/31/96 to 09/01/96 lost data were replaced (average temp only) using Kynoch-Forfar data in a regression; 05/04/97 to 08/25/97 and 01/14/98 to 07/10/98 lost data were replaced using a station 115 m downstream. On Forfar Creek sensors failed 04/19/98 to 09/25/98, lost data replaced using a station 85 m downstream. On Gluskie Creek sensors failed 04/19/98 to 09/24/98, lost data replaced using a station 75 m downstream. In Leo Creek a beaver dam backed the stream up creating a pond over the sensors, therefore no reliable data were recorded from 09/02/98 to 09/25/98.

## ACKNOWLEDGEMENTS

The writer wishes to acknowledge the help of the many people who participated in the field work over the last 3 years. S. Macdonald initiated the project, E. MacIsaac is project leader, C. Scrivener was involved in project design, D. Patterson provided the map, and H. Herunter reviewed the manuscript. Funding for these studies was partially provided by the Fraser River Sustainable Development Program and Fisheries Renewal B.C.

## REFERENCES

- Andersen, B. C., and J. S. Macdonald. 1997. Temperatures in five tributary streams and data from one meteorological station in the Stuart-Takla watershed, 1990-1996. *Can. Data Rep. Fish. Aquat. Sci.* 1022: 81 p.
- Macdonald, J. Stevenson, J. Charles Scrivener, and Glenn Smith. 1992. The Stuart-Takla Fisheries/Forestry Interaction Project: Description and Design. *Can. Tech. Rep. Fish. Aquat. Sci.* 1899: 39 p.
- Macdonald, J. S. (ed.). 1994. Proceedings of the Takla Fishery/Forestry Workshop: a two year review. April 1, 1993, Prince George, B.C. *Can. Tech. Rep. Fish. Aquat. Sci.* 2007: 104 p.
- Macdonald, J. S., Scrivener, J.C., Patterson, D.A., Dixon-Warren, A. 1998. Temperatures in aquatic habitats: the impacts of forest harvesting and the biological consequences to sockeye salmon incubation habitats in the interior of B.C. *In* M.K. Brewin and D.M.A. Monita, tech. coords. Forest-Fish conference: land management practices affecting aquatic ecosystems. *Proc. Forest-Fish Conf.*, May 1-4, 1996, Calgary, Alberta. *Nat. Resour. Can., Can. For. Serv., North. For. Cent., Edmonton, Alberta. Inf. Rep. NOR-X-356.* pp. 313-324.



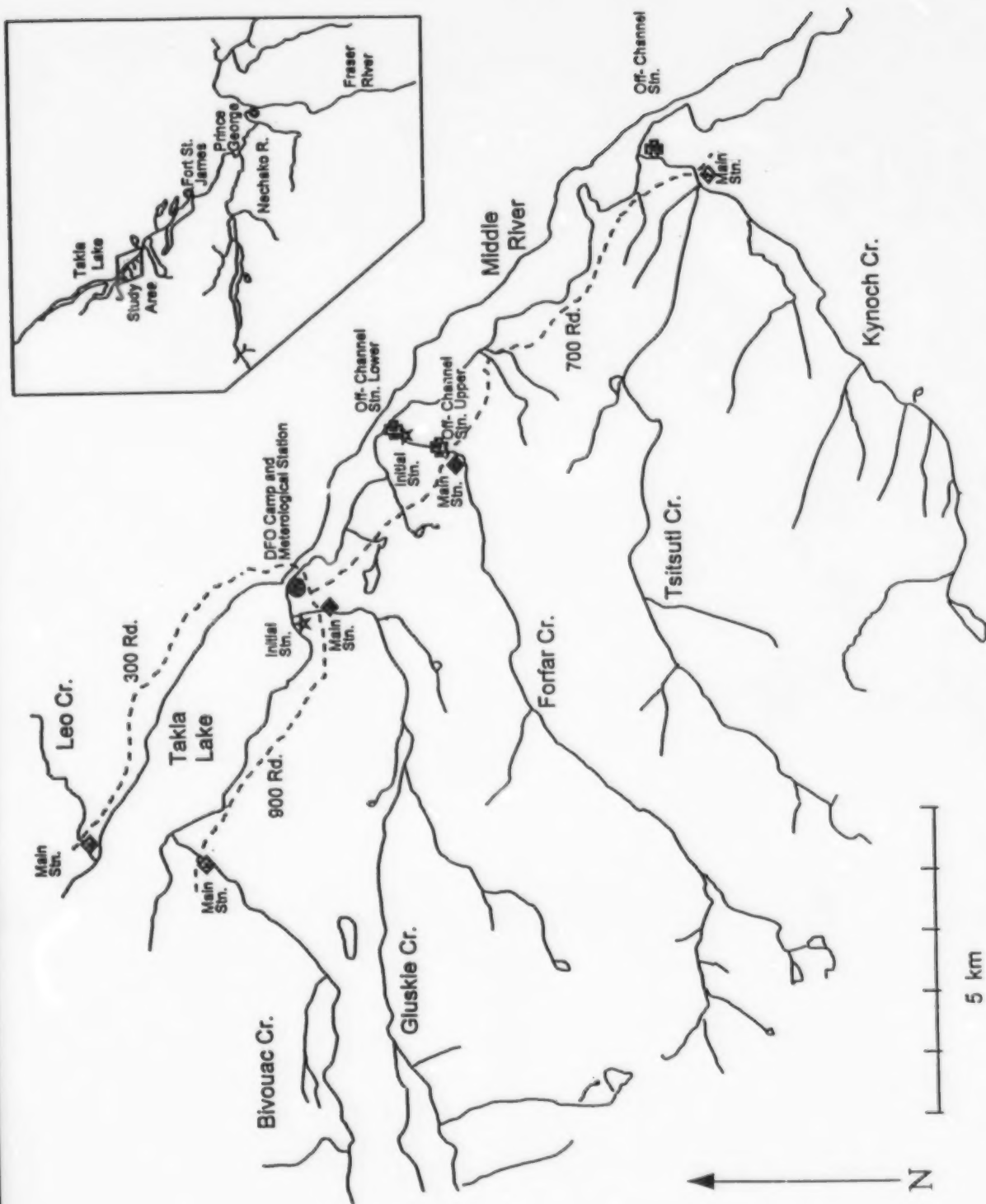


Figure 1. Location of study tributaries in the Upper Stuart - Takla watershed. Data logger stations and main logging roads are shown.





Table 1. METEOROLOGICAL DATA SOUTH END TAKLA LAKE 1996 - 1999.

DATE	AIR TEMPERATURE (C)			RADIATION (watts/sq.m.)		PRECIPITATION
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	AVERAGE	TOTAL (mm.)
04/25/96						2.0
04/26/96	7.3	-0.7	3.72	288	79	0.2
04/27/96	7.0	-2.9	2.54	576	142	0.0
04/28/96	9.5	-4.0	2.63	382	100	1.2
04/29/96	10.3	-0.4	4.09	641	118	2.2
04/30/96	5.9	-1.5	2.07	518	111	0.0
05/01/96	3.7	-0.1	1.48	253	57	4.2
05/02/96	7.3	-1.5	1.42	553	88	2.6
05/03/96	10.9	-2.3	2.30	618	139	0.0
05/04/96	9.5	-3.7	2.75	565	129	0.0
05/05/96	4.3	-1.5	0.97	294	65	2.8
05/06/96	3.2	-4.8	-0.86	524	102	4.2
05/07/96	4.5	-5.6	-0.66	629	191	0.0
05/08/96	4.3	-5.3	-0.08	394	106	0.0
05/09/96	5.9	-5.1	0.98	576	143	0.0
05/10/96	9.8	-5.9	2.06	653	197	0.0
05/11/96	12.5	-5.6	3.98	594	199	0.0
05/12/96	9.2	-0.7	4.34	324	88	0.6
05/13/96	11.4	2.6	5.98	288	68	3.2
05/14/96	8.7	2.6	5.23	712	99	1.6
05/15/96	10.0	-0.9	4.72	453	104	2.8
05/16/96	11.4	-2.9	3.70	576	123	0.0
05/17/96	13.1	-3.4	5.09	576	172	0.0
05/18/96	10.6	4.3	6.64	312	67	1.0
05/19/96	11.4	3.5	6.71	582	83	1.8
05/20/96	13.1	-0.1	5.44	559	133	1.0
05/21/96	13.9	1.0	6.42	629	148	0.2
05/22/96	13.6	1.0	7.51	500	110	0.8
05/23/96	14.7	0.7	8.32	600	154	0.0
05/24/96	18.0	1.0	9.18	518	121	1.0
05/25/96	13.1	2.9	7.88	518	129	3.6
05/26/96	10.3	0.7	5.67	547	135	0.0
05/27/96	12.5	-0.4	6.23	647	169	0.0
05/28/96	16.9	-0.9	7.64	629	144	0.0
05/29/96	18.5	-0.7	8.44	671	144	0.0
05/30/96	15.8	3.2	8.72	653	103	1.4
05/31/96	20.7	1.5	10.95	665	176	0.0
06/01/96	15.5	6.5	10.83	524	112	2.4
06/02/96	20.5	6.7	12.25	571	157	4.4
06/03/96	18.5	4.0	10.83	588	99	1.2
06/04/96	16.9	8.1	10.99	518	88	2.8
06/05/96	18.0	7.0	11.37	653	195	0.0
06/06/96	16.4	8.1	10.83	547	97	3.4
06/07/96	14.4	3.7	9.19	482	125	0.6
06/08/96	13.6	0.4	7.38	488	118	0.6
06/09/96	13.9	2.9	8.35	653	132	0.6
06/10/96	12.8	4.5	7.90	465	80	5.8
06/11/96	14.2	2.4	8.31	453	116	0.2
06/12/96	15.5	2.6	9.46	741	152	0.0
06/13/96	13.3	2.4	8.60	512	117	0.0
06/14/96	13.3	-0.1	7.94	447	123	0.0
06/15/96	9.8	3.2	5.95	465	69	9.0
06/16/96	13.9	1.8	7.23	535	139	0.0
06/17/96	13.9	1.8	7.62	618	117	2.4
06/18/96	17.7	6.2	10.30	671	136	1.0
06/19/96	18.0	8.4	12.39	541	152	0.2
06/20/96	19.4	6.5	12.28	624	141	0.0
06/21/96	16.9	8.1	11.36	606	120	2.2
06/22/96	17.7	6.1	10.85	565	99	4.8
06/23/96	18.8	8.7	12.46	606	106	1.2
06/24/96	21.0	6.2	12.49	718	148	0.0

Table 1. METEOROLOGICAL DATA SOUTH END TAKLA LAKE 1996 - 1999.

DATE	AIR TEMPERATURE (C)			RADIATION (watts/sq.m.)		PRECIPITATION
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	AVERAGE	TOTAL (mm.)
06/25/96	22.9	4.5	12.54	741	170	1.6
06/26/96	17.2	6.7	11.77	494	108	3.6
06/27/96	17.7	5.9	11.69	571	108	0.2
06/28/96	13.6	8.9	10.76	512	113	0.8
06/29/96	16.1	4.5	11.07	524	129	0.2
06/30/96	18.8	6.5	12.07	529	136	0.0
07/01/96	16.4	3.5	9.67	600	135	0.0
07/02/96	19.9	0.2	10.94	565	190	0.0
07/03/96	15.5	8.4	10.60	441	57	13.6
07/04/96	15.3	5.9	9.45	512	110	0.2
07/05/96	13.9	7.8	10.11	476	66	0.0
07/06/96	19.9	7.3	12.53	594	206	0.0
07/07/96	21.3	4.6	13.56	594	201	0.0
07/08/96	22.7	10.9	14.81	565	107	4.4
07/09/96	16.6	8.7	11.97	706	113	2.0
07/10/96	17.7	7.3	12.13	641	161	0.0
07/11/96	21.0	5.1	13.33	594	190	0.0
07/12/96	23.5	8.4	14.24	647	167	0.0
07/13/96	23.5	7.0	14.79	594	190	0.0
07/14/96	24.0	7.6	15.33	606	201	0.0
07/15/96	21.3	6.7	14.06	606	155	0.0
07/16/96	18.5	4.3	11.78	659	182	0.0
07/17/96	11.7	7.6	9.39	112	24	20.2
07/18/96	13.6	4.8	9.53	594	101	17.6
07/19/96	9.2	3.2	6.90	171	38	5.0
07/20/96	15.8	8.7	11.76	459	79	0.2
07/21/96	16.4	6.1	13.42	424	95	0.0
07/22/96	21.3	6.2	13.05	586	170	0.0
07/23/96	22.9	6.5	14.20	582	184	0.0
07/24/96	25.7	7.6	16.02	618	192	0.0
07/25/96	26.5	9.2	17.63	582	187	0.0
07/26/96	25.7	9.8	16.61	612	143	1.6
07/27/96	28.4	8.1	17.68	576	171	0.0
07/28/96	27.9	9.2	17.79	565	115	0.0
07/29/96	28.4	10.0	18.44	594	155	0.0
07/30/96	16.6	8.1	12.15	600	92	0.2
07/31/96	17.2	9.2	12.93	565	114	0.0
08/01/96	19.1	7.3	13.04	612	126	0.0
08/02/96	21.8	5.1	13.29	582	177	0.0
08/03/96	14.7	9.5	12.84	341	53	0.0
08/04/96	17.5	7.0	12.34	629	166	3.0
08/05/96	22.7	10.0	15.53	565	171	0.0
08/06/96	17.7	7.0	13.14	600	126	0.0
08/07/96	18.5	5.4	11.63	494	89	0.0
08/08/96	22.7	8.4	15.16	547	130	0.2
08/09/96	18.8	8.7	14.27	441	77	0.0
08/10/96	21.8	9.2	16.05	518	139	0.2
08/11/96	18.5	8.9	12.72	571	63	3.6
08/12/96	18.8	6.5	12.84	518	120	3.6
08/13/96	17.7	4.3	11.02	547	86	0.0
08/14/96	20.7	5.6	12.25	565	136	0.0
08/15/96	19.1	6.5	10.50	553	75	4.2
08/16/96	14.4	7.0	9.80	482	67	2.8
08/17/96	14.4	5.1	10.28	265	67	0.2
08/18/96	14.4	6.2	10.85	265	63	0.0
08/19/96	13.3	8.1	10.46	371	80	2.0
08/20/96	15.3	8.1	11.48	429	91	0.0
08/21/96	13.3	6.2	9.77	216	52	0.4
08/22/96	18.6	9.8	13.33	424	68	1.4
08/23/96	18.3	5.6	12.88	541	113	0.2
08/24/96	19.6	2.9	10.44	518	146	0.0

Table 1. METEOROLOGICAL DATA SOUTH END TAKLA LAKE 1996 - 1999.

DATE	AIR TEMPERATURE (C)			RADIATION (watts/sq.m.)		PRECIPITATION
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	AVERAGE	TOTAL (mm.)
08/25/96	21.8	3.2	11.60	512	135	0.0
08/26/96	23.2	4.0	12.71	541	140	0.0
08/27/96	21.6	3.7	11.45	478	71	0.0
08/28/96	19.4	8.9	13.62	371	75	0.0
08/29/96	24.0	9.2	16.31	471	95	1.2
08/30/96	15.5	9.8	13.18	135	21	25.4
08/31/96	18.9	8.4	12.03	576	105	0.4
09/01/96	14.4	5.9	11.20	388	85	0.0
09/02/96	17.7	2.1	10.61	500	130	0.0
09/03/96	15.0	3.7	11.05	312	74	0.0
09/04/96	15.0	0.4	7.65	471	110	0.0
09/05/96	12.2	1.3	6.65	300	67	2.0
09/06/96	12.8	4.3	7.72	441	69	2.8
09/07/96	9.2	4.8	6.70	194	49	2.0
09/08/96	13.9	5.9	9.01	394	68	0.2
09/09/96	15.0	3.5	9.77	429	87	0.0
09/10/96	19.1	1.8	9.63	459	110	0.0
09/11/96	22.4	5.1	12.79	465	117	0.0
09/12/96	17.5	6.7	10.80	341	61	0.0
09/13/96	12.8	6.2	9.08	141	23	11.4
09/14/96	12.2	5.6	9.01	359	39	3.8
09/15/96	12.5	4.5	7.49	429	72	1.4
09/16/96	15.5	1.8	7.28	488	114	0.0
09/17/96	18.9	-0.1	7.31	453	109	0.0
09/18/96	13.6	5.6	8.63	412	43	3.8
09/19/96	12.2	2.1	6.59	459	101	0.0
09/20/96	9.8	-2.0	3.52	535	77	0.2
09/21/96	5.9	-2.6	1.10	271	44	0.0
09/22/96	10.9	-3.4	2.17	435	109	0.0
09/23/96	12.0	-3.4	3.09	406	100	0.0
09/24/96	12.0	-1.2	4.06	329	77	0.0
09/25/96	10.3	2.6	6.25	376	39	0.0
09/26/96	21.0	5.4	11.87	459	74	0.0
09/27/96	13.9	7.0	10.49	124	29	0.0
09/28/96	12.8	6.2		400		
05/02/97	14.4			582		0.0
05/03/97	10.6	-0.7	3.74	476	77	1.4
05/04/97	10.3	-2.3	4.33	535	132	0.0
05/05/97	10.0	-0.7	3.37	529	91	5.2
05/06/97	9.5	-0.9	3.49	624	110	0.2
05/07/97	11.1	-1.5	4.35	518	139	0.0
05/08/97	15.3	-3.4	5.86	535	131	0.0
05/09/97	12.5	-0.4	5.91	541	149	0.0
05/10/97	12.5	-2.6	4.92	535	175	0.0
05/11/97	19.9	-1.8	6.52	541	176	0.0
05/12/97	19.6	1.8	10.38	618	189	0.0
05/13/97	21.6	1.0	10.15	571	191	0.0
05/14/97	19.1	1.3	9.33	565	121	0.0
05/15/97	18.5	4.3	11.08	588	110	0.0
05/16/97	11.7	3.2	7.21	506	103	3.8
05/17/97	15.8	2.1	8.33	624	204	0.0
05/18/97	16.9	-0.1	6.57	566	120	0.0
05/19/97	11.7	3.2	7.59	341	70	0.2
05/20/97	12.2	1.3	6.10	576	110	0.0
05/21/97	11.1	-1.2	5.64	547	120	0.0
05/22/97	15.0	-2.9	6.59	665	174	0.0
05/23/97	19.4	-2.0	8.54	588	202	0.0
05/24/97	20.7	3.5	10.66	659	180	0.0
05/25/97	21.6	2.9	12.54	629	151	0.0

Table 1. METEOROLOGICAL DATA SOUTH END TAKLA LAKE 1996 - 1999.

DATE	AIR TEMPERATURE (C)			RADIATION (watts/sq.m.)		PRECIPITATION
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	AVERAGE	TOTAL (mm.)
05/26/97	18.8	4.3	12.02	647	159	0.0
05/27/97	17.7	5.6	11.41	594	150	0.2
05/28/97	18.3	6.7	12.06	594	124	2.6
05/29/97	13.9	7.6	9.98	353	68	6.2
05/30/97	18.3	5.6	11.28	612	166	0.2
05/31/97	14.7	7.3	10.44	288	71	4.0
06/01/97	14.2	5.9	9.36	429	106	0.4
06/02/97	16.6	5.4	10.69	618	133	0.6
06/03/97	20.2	4.0	12.30	576	117	1.8
06/04/97	14.4	7.3	9.85	347	53	11.6
06/05/97	15.3	4.8	10.09	494	117	0.6
06/06/97	13.3	3.7	8.46	582	101	1.0
06/07/97	13.1	4.8	8.10	582	116	0.4
06/08/97	10.9	2.1	6.73	612	129	0.6
06/09/97	15.8	1.8	8.48	618	179	0.0
06/10/97	22.1	0.7	10.80	612	211	0.0
06/11/97	24.3	6.5	13.31	635	134	13.8
06/12/97	19.1	10.3	13.66	553	116	0.6
06/13/97	15.5	7.8	12.66	582	128	0.0
06/14/97	17.2	5.9	12.39	535	121	0.0
06/15/97	18.0	8.7	12.23	624	94	6.4
06/16/97	18.3	6.5	12.85	624	189	0.0
06/17/97	18.0	8.9	12.77	624	131	7.4
06/18/97	15.8	5.4	10.10	653	123	1.8
06/19/97	14.7	7.0	11.46	588	152	0.2
06/20/97	12.5	8.1	10.27	318	77	1.0
06/21/97	15.3	8.7	11.00	400	59	12.0
06/22/97	21.3	7.8	14.69	624	136	0.0
06/23/97	31.2	7.0	14.39	700	196	0.2
06/24/97	22.4	7.0	14.38	594	136	3.0
06/25/97	22.1	8.4	14.17	588	172	0.2
06/26/97	15.8	9.5	12.12	571	92	0.2
06/27/97	13.1	7.8	10.40	382	75	3.4
06/28/97	19.4	7.8	13.03	612	172	2.6
06/29/97	20.5	7.6	12.98	741	114	0.0
06/30/97	18.5	9.5	12.90	629	90	4.0
07/01/97	19.4	7.0	13.69	635	157	0.0
07/02/97	18.0	7.3	12.73	512	101	2.8
07/03/97	22.9	4.5	13.71	612	206	0.0
07/04/97	26.0	5.6	15.99	618	195	0.0
07/05/97	28.2	11.1	18.69	635	188	4.6
07/06/97	14.4	7.6	11.93	471	75	12.0
07/07/97	16.1	4.5	11.53	441	107	0.2
07/08/97	18.0	8.4	12.90	482	83	1.2
07/09/97	17.7	4.3	11.25	624	136	0.0
07/10/97	21.6	7.8	14.25	641	178	0.0
07/11/97	24.0	8.4	16.68	612	200	0.0
07/12/97	23.8	13.3	17.74	676	185	0.0
07/13/97	21.8	11.1	16.24	682	122	0.0
07/14/97	21.6	10.0	15.71	647	170	0.2
07/15/97	19.1	9.8	14.05	524	118	1.6
07/16/97	21.6	10.6	14.87	694	195	0.2
07/17/97	23.2	5.6	13.94	659	183	0.0
07/18/97	19.4	9.2	14.70	588	134	0.0
07/19/97	19.9	10.6	14.43	465	95	1.0
07/20/97	19.4	10.3	14.31	288	63	1.6
07/21/97	17.7	8.7	13.61	482	90	1.2
07/22/97	19.4	8.9	13.02	541	127	1.6
07/23/97	17.5	8.4	12.62	512	126	0.6
07/24/97	17.7	7.3	12.32	606	123	0.2
07/25/97	19.4	10.3	14.10	594	155	0.4

Table 1. METEOROLOGICAL DATA SOUTH END TAKLA LAKE 1996 - 1999.

DATE	AIR TEMPERATURE (C)			RADIATION (watts/sq.m.)		PRECIPITATION
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	AVERAGE	TOTAL (mm.)
07/26/97	21.6	9.2	14.73	616	130	1.2
07/27/97	21.8	10.6	15.34	565	115	1.2
07/28/97	21.8	11.1	15.37	629	150	4.6
07/29/97	21.3	11.4	15.24	586	130	4.4
07/30/97	21.6	10.6	15.14	718	120	9.6
07/31/97	20.2	6.5	13.29	659	144	0.0
08/01/97	20.5	6.7	14.14	594	163	0.0
08/02/97	21.3	4.8	13.12	494	127	0.0
08/03/97	23.2	7.6	14.51	535	112	0.0
08/04/97	22.4	11.7	15.93	553	110	0.2
08/05/97	25.4	10.3	17.05	571	164	0.0
08/06/97	24.3	8.7	15.59	571	148	0.2
08/07/97	15.8	10.0	12.20	247	53	1.0
08/08/97	20.5	9.2	14.70	547	118	0.6
08/09/97	26.5	7.0	15.67	588	169	0.4
08/10/97	27.3	7.0	16.16	559	170	0.0
08/11/97	26.8	9.5	17.89	600	131	0.0
08/12/97	25.4	10.6	18.19	588	141	0.0
08/13/97	27.3	15.8	20.42	553	119	0.0
08/14/97	24.3	13.6	18.10	588	168	0.0
08/15/97	19.6	7.0	14.25	359	93	0.0
08/16/97	23.2	3.2	12.83	576	170	0.0
08/17/97	24.0	4.3	14.35	553	151	0.0
08/18/97	24.6	9.5	16.16	594	156	0.0
08/19/97	25.1	8.4	15.24	582	142	0.0
08/20/97	26.8	5.9	15.54	547	150	0.0
08/21/97	21.6	10.9	15.04	141	45	0.6
08/22/97	19.9	9.5	15.55	476	85	0.0
08/23/97	19.6	8.7	12.67	571	87	0.6
08/24/97	17.5	8.7	12.27	268	64	0.6
08/25/97	22.1	7.3	14.63	535	132	2.6
08/26/97	20.7	10.9	14.89	529	98	8.6
08/27/97	15.0	7.8	11.64	229	47	8.4
08/28/97	16.9	7.6	11.63	465	83	0.0
08/29/97	15.3	7.8	11.93	218	55	0.0
08/30/97	19.9	4.8	11.44	571	119	0.0
08/31/97	21.6	4.8	11.63	512	118	0.0
09/01/97	22.9	2.9	12.39	565	129	0.8
09/02/97	21.6	6.7	13.94	535	110	0.2
09/03/97	22.7	3.7	11.99	500	138	0.0
09/04/97	17.7	4.0	9.55	382	58	0.2
09/05/97	8.9	3.2	6.82	71	16	22.6
09/06/97	14.4	4.3	8.82	488	60	3.4
09/07/97	18.0	2.6	9.06	476	96	0.0
09/08/97	20.5	5.6	11.95	482	105	0.0
09/09/97	22.1	6.5	12.57	512	119	0.0
09/10/97	15.5	7.3	10.83	206	42	2.6
09/11/97	16.4	3.2	9.12	488	109	0.2
09/12/97	15.8	2.6	7.93	506	95	0.4
09/13/97	14.4	4.5	9.08	394	85	0.4
09/14/97	10.6	3.2	6.38	112	23	1.4
09/15/97	7.6	4.0	5.48	165	35	7.8
09/16/97	12.5	3.7	6.93	394	74	3.0
09/17/97	9.2	-0.4	5.26	176	34	0.0
09/18/97	13.9	-2.3	5.05	471	94	0.2
09/19/97	12.5	2.9	7.30	235	46	0.0
09/20/97	15.0	2.1	8.29	365	64	0.0
09/21/97	16.4	5.4	9.33	471	94	0.0
09/22/97	20.2	4.3	11.52	482	84	0.0
09/23/97	20.5	6.5	12.82	306	46	0.0
09/24/97	22.4	4.8	11.94	429	104	0.0

Table 1. METEOROLOGICAL DATA SOUTH END TAKLA LAKE 1996 - 1999.

DATE	AIR TEMPERATURE ( C )			RADIATION (watts/sq.m.)		PRECIPITATION TOTAL (mm.)
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	AVERAGE	
09/25/97	18.8	4.5	11.42	353	69	0.0
09/26/97	11.1	5.6	8.89	71	16	1.2
09/27/97	15.8	5.1	10.04	465	82	0.0
09/28/97		6.7				0.4
04/17/98	12.2			453		0.0
04/18/98	7.8	1.0	3.75	353	70	2.6
04/19/98	8.7	-3.1	2.24	635	138	1.0
04/20/98	8.4	-4.2	2.13	500	111	0.2
04/21/98	10.0	-2.9	2.54	565	98	0.0
04/22/98	12.0	-2.6	3.80	435	126	0.0
04/23/98	6.7	-0.9	2.43	259	53	2.0
04/24/98	9.5	-0.4	3.69	506	108	1.0
04/25/98	8.4	-2.3	2.65	435	92	0.6
04/26/98	8.1	1.3	4.66	229	75	0.8
04/27/98	8.1	0.2	3.83	294	74	0.2
04/28/98	12.0	0.4	5.39	224	52	2.2
04/29/98	13.3	-0.4	4.98	629	155	0.2
04/30/98	21.8	-2.0	7.86	553	173	0.0
05/01/98	20.2	0.2	8.19	541	189	0.0
05/02/98	18.0	-0.4	8.00	553	137	0.0
05/03/98	16.4	2.6	9.72	378	124	0.0
05/04/98	19.6	-0.1	8.76	376	118	0.0
05/05/98	18.3	1.5	9.96	382	107	0.0
05/06/98	16.9	1.5	9.15	388	74	0.0
05/07/98	12.5	0.4	6.25	412	92	0.0
05/08/98	12.0	-0.9	5.21	278	84	0.0
05/09/98	16.6	-0.9	7.11	394	128	0.0
05/10/98	20.5	-2.3	9.08	400	128	0.0
05/11/98	17.5	1.3	9.24	382	88	0.0
05/12/98	16.6	6.5	10.54	388	69	0.0
05/13/98	14.7	6.2	9.49	276	57	1.8
05/14/98	15.3	2.6	8.00	429	80	0.0
05/15/98	16.1	2.1	8.88	312	68	0.0
05/16/98	18.3	2.6	11.17	418	101	0.0
05/17/98	19.1	6.5	11.69	447	89	0.6
05/18/98	19.9	4.0	11.74	424	125	0.0
05/19/98	18.5	5.4	11.95	412	129	0.0
05/20/98	20.7	2.4	11.23	435	126	0.0
05/21/98	21.3	5.9	11.46	329	72	2.6
05/22/98	19.4	5.1	12.80	512	105	0.0
05/23/98	18.6	5.4	11.29	429	102	0.6
05/24/98	22.1	8.1	14.54	453	108	0.2
05/25/98	21.0	8.4	13.03	294	49	5.8
05/26/98	25.4	8.7	16.55	459	137	0.0
05/27/98	28.7	9.5	16.13	518	137	0.0
05/28/98	23.5	10.3	14.74	506	99	12.6
05/29/98	18.5	9.8	13.43	541	135	0.0
05/30/98	27.1	8.7	15.64	553	156	0.2
05/31/98	18.8	10.0	14.16	665	154	0.0
06/01/98	17.7	9.2	12.61	635	111	2.2
06/02/98	21.0	7.3	14.52	671	163	0.0
06/03/98	21.3	8.7	14.39	671	149	0.0
06/04/98	24.3	5.4	14.82	624	205	0.0
06/05/98	25.1	6.7	15.65	671	201	0.0
06/06/98	25.4	10.6	17.43	724	185	0.0
06/07/98	27.6	9.2	17.88	635	165	0.0
06/08/98	29.3	9.8	19.66	635	191	0.0
06/09/98	19.6	13.9	16.16	476	75	0.0
06/10/98	20.2	10.6	14.98	576	145	0.0

Table 1. METEOROLOGICAL DATA SOUTH END TAKLA LAKE 1996 - 1999.

DATE	AIR TEMPERATURE (C)			RADIATION (watts/sq.m.)		PRECIPITATION
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	AVERAGE	TOTAL (mm.)
06/11/96	15.0	7.0	10.77	447	112	0.0
06/12/96	18.8	8.5	12.51	641	168	0.0
06/13/96	21.3	8.9	14.88	841	209	0.0
06/14/96	15.5	8.4	11.18	212	64	9.0
06/15/96	15.5	8.5	10.88	471	117	1.8
06/16/96	19.9	8.2	13.18	600	144	0.2
06/17/96	16.9	10.0	12.25	682	110	10.0
06/18/96	18.4	8.4	12.18	518	84	4.8
06/19/96	23.2	7.8	14.52	659	184	0.8
06/20/96	25.7	8.4	16.19	829	209	4.2
06/21/96	28.7	8.9	18.15	665	216	0.2
06/22/96	19.9	8.4	15.59	478	93	0.0
06/23/96	19.4	7.0	12.78	553	121	1.4
06/24/96	20.7	8.1	13.73	665	177	0.2
06/25/96	20.7	8.9	12.99	578	112	6.8
06/26/96	18.0	10.3	13.39	700	100	0.8
06/27/96	22.9	7.8	14.19	647	172	0.6
06/28/96	25.1	7.8	16.19	735	208	3.2
06/29/96	23.8	13.3	17.72	671	107	0.0
06/30/96	24.0	12.5	18.65	647	115	0.4
07/01/96	20.7	13.9	16.82	365	85	0.0
07/02/96	25.1	14.2	18.22	706	117	0.2
07/03/96	28.2	10.9	17.33	729	164	0.0
07/04/96	25.7	11.4	17.08	682	128	0.0
07/05/96	25.7	13.3	18.61	578	132	0.2
07/06/96	22.9	12.8	17.57	671	165	2.6
07/07/96	17.7	10.9	14.93	488	123	0.0
07/08/96	23.2	7.8	15.86	676	191	0.2
07/09/96	26.8	8.4	17.43	694	153	0.0
07/10/96	25.1	11.7	17.38	665	117	1.4
07/11/96	19.1	8.9	14.24	306	86	0.2
07/12/96	20.5	9.8	14.19	682	135	0.0
07/13/96	16.4	8.9	12.68	429	111	0.0
07/14/96	16.1	8.1	11.46	541	85	2.0
07/15/96	22.9	5.6	13.50	600	140	0.4
07/16/96	15.5	10.8	13.66	212	51	15.2
07/17/96	18.8	7.8	14.01	429	82	2.2
07/18/96	22.1	4.3	13.64	635	143	0.0
07/19/96	17.7	8.4	13.13	471	80	10.6
07/20/96	21.0	8.4	14.48	618	192	0.2
07/21/96	19.9	8.9	15.17	524	121	0.0
07/22/96	32.0	7.0	17.38	600	170	0.2
07/23/96	25.1	12.8	18.05	588	109	0.0
07/24/96	24.6	12.8	17.91	606	151	0.0
07/25/96	26.5	10.9	17.94	606	188	0.0
07/26/96	30.1	10.9	19.62	606	187	0.0
07/27/96	28.2	10.0	18.29	518	146	0.0
07/28/96	31.7	11.1	20.60	559	171	0.0
07/29/96	33.1	12.8	20.71	594	176	0.0
07/30/96	30.6	7.8	18.50	612	178	0.0
07/31/96	30.6	8.1	19.35	618	168	0.0
08/01/96	26.0	11.1	18.84	612	185	0.0
08/02/96	28.7	8.5	17.35	600	184	0.0
08/03/96	29.0	7.0	17.99	578	144	0.0
08/04/96	27.1	11.1	18.86	618	164	0.0
08/05/96	19.6	10.0	13.53	312	51	9.8
08/06/96	20.2	10.0	14.49	618	165	0.0
08/07/96	18.8	10.0	14.28	547	101	0.0
08/08/96	16.4	8.4	12.39	124	40	1.8
08/09/96	21.6	9.8	14.45	535	94	4.8
08/10/96	19.9	5.1	11.77	612	171	0.0



Table 1. METEOROLOGICAL DATA SOUTH END TAKLA LAKE 1998 - 1999.

DATE	AIR TEMPERATURE (C)			RADIATION (watts/sq.m.)		PRECIPITATION
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	AVERAGE	TOTAL (mm.)
08/11/98	13.9	4.5	10.08	182	44	4.8
08/12/98	28.2	9.8	15.43	571	104	0.0
08/13/98	22.1	7.6	14.57	541	134	0.0
08/14/98	21.0	8.7	12.84	641	95	16.0
08/15/98	19.4	9.2	13.46	618	158	0.2
08/16/98	22.9	9.2	14.27	606	108	0.0
08/17/98	23.2	9.5	14.66	553	161	0.0
08/18/98	22.7	11.1	15.91	582	164	0.0
08/19/98	27.3	6.5	14.63	571	164	0.0
08/20/98	21.0	5.9	13.48	329	79	0.0
08/21/98	22.9	8.4	14.85	553	148	0.0
08/22/98	21.6	10.9	15.36	653	126	0.0
08/23/98	22.4	7.8	14.33	535	153	0.0
08/24/98	17.2	9.6	13.49	365	79	0.0
08/25/98	18.0	7.0	11.48	565	78	7.0
08/26/98	14.2	5.4	9.60	282	56	0.0
08/27/98	16.9	6.7	10.72	576	88	0.4
08/28/98	22.7	8.1	13.92	612	96	0.0
08/29/98	22.1	5.9	13.80	476	85	0.0
08/30/98	19.1	2.6	11.60	541	150	0.2
08/31/98	25.4	8.1	16.56	524	144	0.0
09/01/98	22.7	10.9	16.50	482	108	1.8
09/02/98	19.1	4.3	12.91	647	131	0.2
09/03/98	13.6	1.0	7.16	435	66	0.0
09/04/98	14.7	1.3	8.16	388	94	0.0
09/05/98	19.4	-0.4	10.00	500	129	0.0
09/06/98	12.2	9.2	10.79	71	16	17.8
09/07/98	15.0	3.7	9.66	318	67	0.0
09/08/98	15.3	0.4	6.93	518	114	0.0
09/09/98	12.5	0.2	5.74	476	52	3.4
09/10/98	11.1	3.5	7.99	218	44	0.4
09/11/98	16.1	5.9	10.85	388	68	0.2
09/12/98	16.9	5.1	9.77	476	60	1.0
09/13/98	14.4	1.8	7.83	494	115	0.0
09/14/98	14.2	-0.1	6.30	500	101	0.0
09/15/98	12.0	-2.0	5.00	341	69	0.0
09/16/98	16.6	2.4	7.99	476	122	0.0
09/17/98	16.6	-0.9	6.64	524	115	0.0
09/18/98	18.8	0.7	8.46	482	116	0.0
09/19/98	19.6	0.7	8.82	465	118	0.0
09/20/98	20.2	0.2	7.39	465	102	0.0
09/21/98	19.1	2.9	9.23	471	117	0.0
09/22/98	17.2	1.5	7.66	447	106	0.0
09/23/98	11.1	2.6	7.07	188	29	1.0
09/24/98	11.4	5.1	7.66	241	31	2.0
09/25/98	16.6	5.9		447		0.2
06/02/99	18.5			735		0.0
06/03/99	16.4	5.1	9.87	859	209	0.2
06/04/99	10.6	2.6	6.97	565	133	6.6
06/05/99	10.0	3.2	6.78	647	153	0.0
06/06/99	10.6	2.1	6.46	706	192	1.2
06/07/99	8.7	4.8	6.37	435	117	7.6
06/08/99	15.3	5.6	9.04	788	188	1.4
06/09/99	13.1	6.5	9.10	782	152	15.4
06/10/99	19.4	7.0	12.27	759	256	0.2
06/11/99	23.2	9.2	15.78	824	286	0.0
06/12/99	24.6	6.5	16.14	765	273	0.0
06/13/99	21.6	10.0	14.87	488	127	0.0
06/14/99	25.1	10.9	17.37	778	261	0.0



Table 1. METEOROLOGICAL DATA SOUTH END TAKLA LAKE 1996 - 1999.

DATE	AIR TEMPERATURE (C)			RADIATION (watts/sq.m.)		PRECIPITATION TOTAL (mm.)
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	AVERAGE	
06/15/99	29.0	9.5	18.54	788	270	0.0
06/16/99	19.4	9.5	14.03	853	139	2.2
06/17/99	18.8	7.8	12.58	747	209	0.0
06/18/99	14.7	8.7	11.34	885	112	7.0
06/19/99	14.4	5.9	10.74	724	159	0.0
06/20/99	12.0	8.5	8.88	500	117	2.0
06/21/99	15.0	5.4	9.87	835	195	0.2
06/22/99	14.4	7.8	10.11	853	144	0.0
06/23/99	16.4	8.2	11.25	741	213	0.0
06/24/99	19.6	8.2	12.12	971	239	0.0
06/25/99	19.9	8.5	12.61	771	214	0.0
06/26/99	12.8	7.8	10.29	600	101	1.8
06/27/99	15.0	5.4	9.95	818	190	0.2
06/28/99	11.7	4.3	8.51	524	141	0.8
06/29/99	12.2	7.0	9.25	488	149	0.4
06/30/99	13.1	7.0	9.83	685	141	1.8
07/01/99	13.6	8.5	10.68	500	100	0.8
07/02/99	17.2	8.5	11.78	553	130	0.2
07/03/99	21.3	4.8	12.84	818	254	0.0
07/04/99	15.5	7.8	12.08	578	180	2.0
07/05/99	18.5	8.4	12.18	771	224	4.8
07/06/99	21.8	8.7	13.79	718	248	0.2
07/07/99	20.2	6.7	13.27	612	171	0.0
07/08/99	22.1	8.1	15.03	753	262	0.0
07/09/99	25.7	8.5	15.08	782	259	0.0
07/10/99	22.4	9.5	16.55	841	172	0.0
07/11/99	20.5	10.6	14.74	735	143	0.0
07/12/99	17.2	9.5	12.88	747	187	0.0
07/13/99	14.4	7.8	10.83	800	125	7.0
07/14/99	14.2	7.8	11.13	241	80	0.4
07/15/99	15.0	4.5	10.38	706	155	0.0
07/16/99	22.9	2.8	12.41	771	266	0.0
07/17/99	28.0	7.0	15.84	847	212	0.0
07/18/99	27.6	8.4	17.04	778	259	0.0
07/19/99	24.9	13.9	18.54	778	242	0.0
07/20/99	21.0	12.0	16.53	724	186	0.0
07/21/99	21.8	10.3	15.97	841	194	0.0
07/22/99	16.1	7.8	12.74	285	77	0.4
07/23/99	18.5	7.8	11.99	735	202	0.2
07/24/99	19.1	6.5	12.17	812	233	0.2
07/25/99	16.4	8.1	12.33	671	162	0.0
07/26/99	21.0	9.5	14.93	818	237	0.0
07/27/99	16.4	11.4	14.20	288	85	7.4
07/28/99	16.1	9.5	14.10	347	65	11.6
07/29/99	16.8	7.8	11.69	729	167	0.2
07/30/99	21.8	8.7	13.69	806	223	0.0
07/31/99	19.9	7.0	13.06	741	161	0.8
08/01/99	23.2	7.0	14.72	759	249	0.0
08/02/99	26.2	8.5	15.41	771	248	0.0
08/03/99	26.0	7.0	16.28	741	243	0.0
08/04/99	26.5	10.9	17.83	741	221	0.0
08/05/99	32.0	13.3	20.44	771	237	0.0
08/06/99	26.2	12.0	18.56	778	186	7.8
08/07/99	25.4	17.5	20.13	700	196	2.8
08/08/99	23.5	12.8	17.48	818	189	0.0
08/09/99	19.1	10.0	14.28	729	162	0.0
08/10/99	23.2	8.7	14.30	747	211	0.0
08/11/99	13.6	9.8	12.03	147	51	8.0
08/12/99	19.6	9.5	13.69	435	92	0.0
08/13/99	22.7	8.7	14.31	718	201	0.0
08/14/99	21.3	8.1	14.07	835	180	0.0

Table 1. METEOROLOGICAL DATA SOUTH END TAKLA LAKE 1998 - 1999.

DATE	AIR TEMPERATURE (C)			RADIATION (watts/sq.m.)		PRECIPITATION
	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	AVERAGE	TOTAL (mm.)
08/15/99	19.1	10.0	13.95	818	164	0.0
08/16/99	20.2	11.4	15.08	747	166	0.0
08/17/99	21.6	10.6	15.15	865	141	0.0
08/18/99	24.3	13.1	17.52	718	212	0.0
08/19/99	21.8	10.9	15.01	653	123	0.4
08/20/99	24.3	8.1	15.85	747	184	0.8
08/21/99	16.4	7.8	12.58	600	101	3.2
08/22/99	16.1	8.1	12.38	576	105	0.2
08/23/99	15.8	11.1	13.07	665	130	4.2
08/24/99	15.5	10.0	12.22	194	52	5.6
08/25/99	15.0	8.5	10.10	729	113	1.2
08/26/99	10.0	4.0	7.41	376	88	3.8
08/27/99	13.9	6.7	10.93	182	47	5.2
08/28/99	18.0	9.2	12.80	529	91	0.4
08/29/99	10.3	5.1	8.52	271	71	0.2
08/30/99	15.3	4.8	9.14	688	176	0.4
08/31/99	16.9	3.5	9.56	718	160	0.2
09/01/99	17.2	1.8	8.02	659	137	0.0
09/02/99	18.0	2.1	9.26	676	191	0.2
09/03/99	18.8	3.5	10.91	659	176	0.0
09/04/99	17.7	10.9	13.35	624	145	1.2
09/05/99	13.6	8.4	11.96	353	63	0.6
09/06/99	12.0	7.3	9.75	229	58	5.8
09/07/99	15.5	4.8	10.01	612	177	0.2
09/08/99	12.8	8.4	10.59	441	73	0.0
09/09/99	12.8	6.7	10.22	582	94	7.6
09/10/99	14.7	4.5	8.53	647	125	0.6
09/11/99	15.5	4.5	8.68	653	132	0.2
09/12/99	15.3	2.6	8.39	612	134	0.2
09/13/99		2.1				0.4

Table 2. WATER TEMPERATURES (°C) GLUSKIE, FORFAR, and KYNOCH CREEKS 1996 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
05/01/96	1.2	0.5	0.86	1.7	0.9	1.30	2.1	0.9	1.47
05/02/96	1.9	0.7	1.19	2.2	1.0	1.53	2.9	1.2	1.88
05/03/96	2.9	0.7	1.44	2.9	1.0	1.66	3.4	1.2	2.11
05/04/96	2.4	0.5	1.39	2.6	0.7	1.64	3.3	0.7	1.94
05/05/96	1.9	0.7	1.30	2.4	0.7	1.51	2.7	1.2	1.77
05/06/96	1.7	0.2	0.85	1.9	0.5	1.09	2.4	0.7	1.48
05/07/96	1.9	0.0	0.68	2.6	0.2	1.04	3.3	0.4	1.48
05/08/96	1.4	0.0	0.73	1.9	0.2	0.95	2.2	0.5	1.37
05/09/96	2.1	0.2	1.05	2.4	0.4	1.28	2.6	0.7	1.61
05/10/96	2.7	0.0	1.24	3.6	0.2	1.64	4.0	0.5	2.06
05/11/96	3.1	0.2	1.53	4.0	0.4	1.97	4.9	0.7	2.58
05/12/96	2.7	1.0	1.95	3.3	1.2	2.15	3.3	1.9	2.57
05/13/96	2.9	1.5	2.15	3.1	1.7	2.24	3.4	2.1	2.70
05/14/96	2.7	1.5	2.05	3.4	1.5	2.21	4.1	1.9	2.70
05/15/96	2.4	1.2	1.83	2.9	1.5	2.12	3.3	1.5	2.33
05/16/96	2.9	0.7	1.74	3.6	1.2	2.18	4.0	1.2	2.40
05/17/96	3.3	0.7	1.94	4.3	1.0	2.47	4.5	1.2	2.67
05/18/96	2.4	1.5	1.92	3.1	1.9	2.38	2.9	1.9	2.43
05/19/96	2.6	1.2	1.74	3.3	1.7	2.28	2.9	1.7	2.21
05/20/96	2.7	1.0	1.74	3.3	1.2	2.18	3.8	1.4	2.42
05/21/96	3.1	1.2	1.97	3.8	1.4	2.40	4.1	1.5	2.62
05/22/96	3.3	1.4	2.20	3.8	1.5	2.59	4.3	1.7	2.89
05/23/96	3.4	1.4	2.25	4.1	1.5	2.65	4.3	1.7	2.83
05/24/96	2.9	1.2	2.04	3.8	1.4	2.45	4.0	1.7	2.70
05/25/96	2.7	1.4	1.96	3.3	1.5	2.25	3.4	1.9	2.47
05/26/96	2.7	1.4	1.95	3.1	1.4	2.22	3.3	1.5	2.31
05/27/96	3.1	1.4	2.23	3.6	1.5	2.54	3.8	1.5	2.65
05/28/96	3.6	1.5	2.54	4.1	1.7	2.83	4.3	1.7	2.95
05/29/96	4.0	1.7	2.82	4.1	1.9	2.97	4.5	1.9	3.20
05/30/96	3.6	2.1	2.88	4.1	2.1	2.90	4.0	2.2	2.97
05/31/96	4.1	1.9	2.97	4.5	1.9	2.93	5.0	1.9	3.20
06/01/96	3.3	2.2	2.77	3.4	2.1	2.69	4.0	2.2	2.84
06/02/96	3.6	2.2	2.82	3.6	2.1	2.66	4.1	2.2	2.90
06/03/96	3.6	2.1	2.75	3.6	2.1	2.68	4.0	2.2	2.88
06/04/96	3.8	2.2	2.94	3.8	2.2	2.82	4.0	2.2	2.80
06/05/96	4.0	2.6	3.24	3.8	2.4	2.99	4.0	2.2	2.98
06/06/96	4.1	2.7	3.32	4.0	2.6	3.01	4.3	2.6	3.09
06/07/96	4.1	2.6	3.30	4.1	2.4	3.10	4.3	2.4	3.21
06/08/96	3.6	2.4	3.16	3.6	2.2	2.99	4.0	2.1	3.12
06/09/96	4.3	2.6	3.52	4.1	2.2	3.18	4.5	2.2	3.34
06/10/96	4.5	3.3	3.74	4.1	2.7	3.26	4.1	2.7	3.39
06/11/96	4.5	2.9	3.76	4.1	2.4	3.33	4.3	2.4	3.42
06/12/96	4.9	2.9	3.95	4.9	2.4	3.56	5.0	2.4	3.83
06/13/96	4.9	3.3	3.99	4.7	2.7	3.59	5.2	2.7	3.92
06/14/96	4.7	2.6	3.78	4.7	2.2	3.50	5.4	2.6	3.92
06/15/96	4.3	3.3	3.80	4.1	2.9	3.54	4.3	3.3	3.85
06/16/96	5.0	2.9	3.88	5.0	2.6	3.73	5.2	2.9	4.00
06/17/96	4.9	3.4	4.11	4.7	2.7	3.74	4.9	3.1	4.04
06/18/96	5.6	4.0	4.82	5.4	3.3	4.30	6.1	3.8	4.88
06/19/96	6.1	4.3	5.24	5.8	3.6	4.55	6.1	4.0	5.05
06/20/96	6.1	4.1	5.15	5.2	3.3	4.22	6.1	3.6	4.88
06/21/96	5.8	4.5	5.19	5.0	3.4	4.16	5.6	4.0	4.74
06/22/96	5.6	4.3	4.98	4.9	3.3	4.00	5.8	4.0	4.76
06/23/96	5.8	4.3	5.00	5.0	3.4	4.20	6.3	4.1	5.11
06/24/96	6.1	4.3	5.26	5.8	3.3	4.44	6.9	4.0	5.44
06/25/96	5.8	4.3	5.15	5.4	3.4	4.43	6.7	4.1	5.52
06/26/96	6.1	4.5	5.40	5.8	3.8	4.74	7.3	4.7	5.93
06/27/96	6.1	4.5	5.43	5.8	3.6	4.71	6.7	4.5	5.73
06/28/96	6.0	4.9	5.47	5.6	3.8	4.65	6.5	4.7	5.62
06/29/96	6.1	4.9	5.48	5.8	3.6	4.72	6.3	4.5	5.58
06/30/96	7.1	5.4	6.12	6.9	4.3	5.42	7.7	5.2	6.37

Table 2. WATER TEMPERATURES ( C ) GLUSKIE, FORFAR, and KYNOCH CREEKS 1996 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
07/01/96	6.1	4.7	5.46	6.0	4.0	4.97	6.9	4.7	5.81
07/02/96	6.5	4.1	5.37	6.7	3.4	5.13	7.5	4.1	5.93
07/03/96	6.3	5.6	5.98	6.0	5.0	5.51	6.7	5.8	6.27
07/04/96	6.5	5.2	5.82	6.5	4.7	5.46	7.1	5.2	6.15
07/05/96	6.3	5.4	5.90	6.1	4.5	5.32	7.5	5.4	6.20
07/06/96	7.3	5.2	6.22	7.5	4.5	5.88	8.2	5.2	6.74
07/07/96	7.7	5.6	6.70	8.0	5.0	6.59	9.0	5.8	7.42
07/08/96	8.4	6.5	7.39	8.2	6.3	7.24	8.8	7.1	7.98
07/09/96	7.7	6.7	7.21	7.3	6.1	6.81	8.0	6.9	7.48
07/10/96	7.5	6.0	6.76	7.7	5.4	6.47	8.6	6.0	7.25
07/11/96	8.0	6.3	7.15	8.6	5.8	7.15	9.4	6.3	7.92
07/12/96	8.2	6.7	7.52	8.8	6.7	7.82	9.8	7.1	8.52
07/13/96	9.2	7.1	8.08	9.8	6.9	8.35	10.4	7.5	9.05
07/14/96	9.0	7.3	8.16	9.6	7.5	8.52	10.4	7.8	9.24
07/15/96	8.6	7.3	8.03	8.8	7.7	8.25	9.8	8.2	9.03
07/16/96	8.0	6.7	7.52	8.0	6.5	7.43	9.2	7.3	8.23
07/17/96	7.5	6.7	7.02	7.5	6.7	7.12	7.8	7.3	7.55
07/18/96	7.1	6.5	6.83	7.1	6.5	6.89	8.2	7.1	7.45
07/19/96	6.5	5.8	5.94	6.3	5.4	5.83	7.3	6.3	6.71
07/20/96	6.7	5.8	6.24	7.3	5.8	6.43	7.8	6.3	7.14
07/21/96	7.3	6.3	6.73	7.7	6.3	7.03	8.4	7.1	7.81
07/22/96	7.3	6.7	7.00	8.6	6.3	7.46	9.4	7.1	8.31
07/23/96	7.8	6.5	7.25	9.2	6.7	7.96	10.0	7.5	8.75
07/24/96	8.6	7.3	7.84	9.8	7.3	8.49	10.7	8.0	9.31
07/25/96	9.2	7.7	8.34	10.0	7.7	8.87	10.9	8.4	9.67
07/26/96	9.2	8.0	8.57	9.8	8.2	9.15	11.3	9.0	10.10
07/27/96	9.6	8.2	8.85	10.9	8.4	9.73	11.5	9.2	10.48
07/28/96	9.8	8.8	9.26	11.1	9.0	10.10	11.3	9.8	10.68
07/29/96	10.4	9.0	9.58	11.1	9.4	10.33	11.7	9.8	10.73
07/30/96	9.6	8.6	8.99	10.2	8.6	9.10	10.4	8.6	9.38
07/31/96	9.0	7.8	8.41	9.4	7.7	8.55			9.17
08/01/96	8.8	8.0	8.38	9.2	7.8	8.51			9.13
08/02/96	8.8	7.7	8.23	9.4	7.3	8.46			9.08
08/03/96	8.6	7.7	8.17	9.0	8.0	8.58			9.21
08/04/96	9.2	7.7	8.27	9.4	7.8	8.52			9.14
08/05/96	9.4	7.3	8.30	9.6	7.7	8.63			9.26
08/06/96	9.4	7.8	8.59	9.8	8.4	9.08			9.73
08/07/96	9.0	7.5	8.29	9.0	7.7	8.35			8.97
08/08/96	9.6	7.8	8.68	10.0	8.0	8.93			9.58
08/09/96	9.6	8.0	8.89	10.0	8.4	9.28			9.94
08/10/96	10.2	8.8	9.50	10.7	9.0	9.80			10.49
08/11/96	9.8	8.6	9.22	9.8	9.0	9.50			10.18
08/12/96	10.0	8.2	9.19	10.0	8.6	9.32			9.99
08/13/96	9.8	7.8	8.67	9.4	8.2	8.94			9.59
08/14/96	9.6	8.0	8.88	9.6	8.0	8.90			9.55
08/15/96	9.6	8.0	8.66	9.4	8.4	8.93			9.57
08/16/96	9.4	7.8	8.41	9.2	8.0	8.55			9.18
08/17/96	9.0	7.7	8.34	9.0	7.7	8.30			8.92
08/18/96	8.6	7.7	8.23	8.6	7.5	8.22			8.83
08/19/96	8.8	7.8	8.35	8.6	7.8	8.27			8.88
08/20/96	9.0	7.8	8.34	9.0	7.7	8.30			8.92
08/21/96	8.4	7.7	8.07	8.4	7.7	8.12			8.72
08/22/96	9.6	7.8	8.63	9.4	7.8	8.60			9.23
08/23/96	9.8	8.6	9.12	9.8	8.4	9.03			9.68
08/24/96	9.2	7.5	8.46	9.2	7.5	8.32			8.94
08/25/96	9.4	7.7	8.45	9.4	7.7	8.50			9.13
08/26/96	9.6	7.8	8.66	10.0	7.8	8.88			9.53
08/27/96	9.4	7.8	8.63	9.6	8.0	8.69			9.54
08/28/96	10.0	8.6	9.21	10.2	8.8	9.48			10.15
08/29/96	10.7	9.0	9.80	11.1	9.2	10.16			10.87
08/30/96	10.2	9.6	9.93	10.4	9.8	10.25			10.97

Table 2. WATER TEMPERATURES (°C) GLUSKIE, FORFAR, and KYNOCH CREEKS 1998 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
08/31/98	10.0	8.8	9.39	9.8	8.8	9.28			9.94
09/01/98	9.2	8.4	8.70	9.0	8.2	8.66	9.8		9.29
09/02/98	8.6	7.1	8.05	8.4	7.1	7.91	9.2	7.3	8.32
09/03/98	8.6	7.8	8.18	8.8	7.8	8.22	9.2	8.2	8.63
09/04/98	8.0	6.3	7.29	7.8	6.3	7.17	8.6	6.9	7.75
09/05/98	7.3	5.8	6.71	7.3	6.0	6.73	7.7	6.5	7.24
09/06/98	7.5	6.3	6.96	7.5	6.5	7.04	8.0	6.9	7.44
09/07/98	7.1	6.5	6.88	7.1	6.5	6.90	7.7	7.1	7.37
09/08/98	7.7	6.3	7.04	7.7	6.5	7.07	8.0	6.9	7.41
09/09/98	8.0	6.9	7.39	8.0	7.1	7.51	8.4	7.3	7.74
09/10/98	7.7	5.8	6.81	7.7	6.1	7.04	8.2	6.3	7.23
09/11/98	7.8	6.1	7.00	8.2	6.5	7.40	8.6	6.5	7.53
09/12/98	8.4	7.1	7.62	8.6	7.3	7.90	8.6	7.3	8.02
09/13/98	7.8	7.1	7.48	8.0	7.5	7.74	8.2	7.5	7.84
09/14/98	8.0	7.3	7.63	8.0	7.7	7.83	8.2	7.8	7.94
09/15/98	7.5	6.5	7.08	7.5	6.7	7.15	8.0	7.1	7.53
09/16/98	6.9	5.8	6.48	7.3	6.0	6.62	7.8	6.3	7.08
09/17/98	6.1	4.9	5.70	6.5	5.0	5.90	7.1	5.4	6.20
09/18/98	6.9	6.1	6.47	7.5	6.3	6.79	7.8	6.5	7.03
09/19/98	6.3	5.4	5.97	6.9	5.8	6.17	7.1	5.8	6.36
09/20/98	5.8	4.5	5.31	5.8	4.7	5.43	6.3	5.0	5.79
09/21/98	4.5	3.6	4.06	4.7	3.8	4.25	5.0	4.1	4.60
09/22/98	4.1	3.1	3.55	4.1	2.9	3.56	4.7	3.3	3.85
09/23/98	3.8	2.6	3.28	4.0	2.7	3.40	4.5	2.9	3.59
09/24/98	4.3	2.9	3.63	4.7	3.3	3.93	4.9	3.3	4.04
09/25/98	5.0	4.0	4.50	5.4	4.1	4.79	5.6	4.1	4.80
09/26/98	6.7	4.7	5.62	6.9	5.0	5.88	7.1	5.2	6.09
09/27/98	7.7	6.5	7.12	7.8	6.9	7.28	7.8	6.9	7.35
09/28/98	7.0	5.9	6.55	7.3	6.0	6.95	7.8	6.3	7.26
09/29/98	5.7	4.1	4.77	6.0	4.0	4.89	6.1	4.3	5.28
09/30/98	3.9	2.8	3.38	3.8	2.9	3.45	4.5	3.4	3.88
10/01/98	2.8	1.8	2.45	3.1	2.1	2.58	3.8	2.6	3.15
10/02/98	3.2	2.3	2.82	3.3	2.2	2.86	3.6	2.6	3.14
10/03/98	4.6	3.4	3.96	4.3	3.3	3.78	4.3	3.4	3.86
10/04/98	4.2	3.4	3.95	4.5	3.4	4.00	4.7	3.8	4.16
10/05/98	3.9	2.7	3.32	4.0	2.7	3.42	4.1	3.1	3.68
10/06/98	4.4	3.4	3.88	4.7	3.4	4.10	4.5	3.4	4.03
10/07/98	4.8	3.9	4.35	5.6	4.3	4.90	5.6	4.1	4.83
10/08/98	5.3	4.6	5.01	5.8	4.9	5.36	5.8	4.9	5.41
10/09/98	5.9	5.0	5.38	6.3	5.2	5.73	6.0	5.4	5.77
10/10/98	6.6	5.7	6.00	7.1	6.3	6.57	7.1	6.0	6.49
10/11/98	5.7	3.9	4.62	6.1	4.0	4.71	6.1	4.1	4.95
10/12/98	3.9	2.7	3.43	4.0	2.9	3.49	4.0	2.9	3.63
10/13/98	5.0	3.9	4.33	4.7	4.0	4.23	4.9	4.0	4.35
10/14/98	3.9	2.7	3.18	3.8	2.7	3.16	4.0	2.7	3.28
10/15/98	3.0	1.6	2.49	3.1	1.5	2.33	3.1	1.7	2.52
10/16/98	1.6	0.6	1.20	1.5	0.5	1.08	1.7	0.9	1.30
10/17/98	1.5	0.6	1.10	1.4	0.7	1.06	1.5	1.0	1.25
10/18/98	0.8	0.0	0.22	0.9	0.0	0.43	1.0	0.4	0.61
10/19/98	0.3	0.0	0.13	0.7	0.2	0.43	0.9	0.4	0.58
10/20/98	1.3	0.3	0.78	1.4	0.4	0.90	1.5	0.5	1.02
10/21/98	1.3	0.3	0.89	1.4	0.4	1.00	1.4	0.2	0.93
10/22/98	2.0	1.3	1.63	2.1	1.2	1.65	1.9	1.0	1.48
10/23/98	1.6	0.5	1.10	1.5	0.5	1.15	1.5	0.7	1.18
10/24/98	1.3	0.8	1.10	1.4	0.9	1.11	1.4	0.9	1.08
10/25/98	1.1	0.5	0.93	1.2	0.4	0.87	1.0	0.4	0.81
10/26/98	1.1	0.1	0.60	1.4	0.2	0.78	1.0	0.4	0.75
10/27/98	1.6	1.1	1.44	1.9	1.4	1.65	1.7	1.0	1.39
10/28/98	1.8	0.5	1.38	1.9	0.5	1.51	1.7	0.7	1.45
10/29/98	0.3	0.0	0.04	0.4	0.0	0.09	0.5	0.2	0.33
10/30/98	0.1	0.0	0.01	0.2	0.0	0.04	0.5	0.0	0.21

Table 2. WATER TEMPERATURES (°C) GLUSKIE, FORFAR, and KYNOCH CREEKS 1998 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
10/31/98	0.0	0.0	0.00	0.2	0.0	0.09	0.5	0.0	0.26
11/01/98	0.1	0.0	0.05	0.4	0.0	0.29	0.7	0.2	0.42
11/02/98	0.5	0.1	0.23	1.0	0.4	0.71	1.0	0.5	0.75
11/03/98	0.3	0.0	0.18	0.9	0.2	0.63	0.7	0.0	0.52
11/04/98	0.5	0.1	0.32	1.0	0.5	0.81	0.9	0.5	0.68
11/05/98	0.6	0.1	0.47	1.5	0.5	0.87	1.2	0.5	0.78
11/06/98	0.6	0.1	0.34	0.9	0.2	0.61	0.9	0.4	0.59
11/07/98	0.1	0.0	0.01	0.2	0.0	0.02	0.2	0.0	0.17
11/08/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.0	0.19
11/09/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.16
11/10/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.12
11/11/98	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.0	0.28
11/12/98	0.0	0.0	0.00	0.5	0.0	0.16	0.7	0.4	0.57
11/13/98	0.0	0.0	0.00	0.9	0.4	0.70	0.9	0.5	0.74
11/14/98	0.1	0.0	0.04	0.9	0.0	0.54	0.7	0.4	0.55
11/15/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
11/16/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.06
11/17/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.01
11/18/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.01
11/19/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.03
11/20/98	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
11/21/98	0.0	0.0	0.00	0.2	0.0	0.03	0.0	0.0	0.00
11/22/98	0.0	0.0	0.00	0.2	0.0	0.17	0.0	0.0	0.00
11/23/98	0.0	0.0	0.00	0.2	0.0	0.12	0.0	0.0	0.00
11/24/98	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
11/25/98	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
11/26/98	0.0	0.0	0.00	0.2	0.0	0.01	0.2	0.0	0.16
11/27/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
11/28/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.22
11/29/98	0.0	0.0	0.00	0.2	0.0	0.17	0.4	0.4	0.40
11/30/98	0.0	0.0	0.00	0.2	0.2	0.20	0.5	0.2	0.37
12/01/98	0.0	0.0	0.00	0.2	0.2	0.20	0.4	0.2	0.32
12/02/98	0.0	0.0	0.00	0.2	0.2	0.20	0.0	0.0	0.00
12/03/98	0.0	0.0	0.00	0.2	0.2	0.20	0.2	0.0	0.03
12/04/98	0.0	0.0	0.00	0.4	0.2	0.22	0.2	0.0	0.15
12/05/98	0.0	0.0	0.00	0.4	0.2	0.33	0.5	0.2	0.36
12/06/98	0.0	0.0	0.00	0.4	0.2	0.38	0.4	0.2	0.22
12/07/98	0.0	0.0	0.00	0.5	0.4	0.46	0.5	0.2	0.38
12/08/98	0.1	0.0	0.01	0.4	0.4	0.40	0.4	0.2	0.36
12/09/98	0.1	0.0	0.05	0.4	0.2	0.35	0.4	0.0	0.23
12/10/98	0.1	0.0	0.04	0.5	0.2	0.39	0.4	0.0	0.29
12/11/98	0.0	0.0	0.00	0.4	0.2	0.39	0.4	0.4	0.40
12/12/98	0.0	0.0	0.00	0.4	0.2	0.29	0.4	0.0	0.23
12/13/98	0.1	0.0	0.05	0.4	0.2	0.31	0.4	0.0	0.21
12/14/98	0.0	0.0	0.00	0.4	0.0	0.18	0.2	0.0	0.02
12/15/98	0.1	0.0	0.04	0.2	0.2	0.20	0.2	0.0	0.06
12/16/98	0.0	0.0	0.00	0.2	0.0	0.02	0.0	0.0	0.00
12/17/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.02
12/18/98	0.0	0.0	0.00	0.2	0.0	0.04	0.2	0.0	0.03
12/19/98	0.0	0.0	0.00	0.2	0.0	0.18	0.2	0.0	0.11
12/20/98	0.1	0.0	0.02	0.4	0.0	0.23	0.2	0.0	0.15
12/21/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.01
12/22/98	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
12/23/98	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
12/24/98	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
12/25/98	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
12/26/98	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
12/27/98	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
12/28/98	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
12/29/98	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
12/30/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.05



Table 2. WATER TEMPERATURES ( C ) GLUSKIE, FORFAR, and KYNOCH CREEKS 1995 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
12/31/96	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/01/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/02/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/03/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/04/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/05/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/06/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/07/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/08/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/09/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/10/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/11/97	0.0	0.0	0.00	0.2	0.0	0.01	0.0	0.0	0.00
01/12/97	0.0	0.0	0.00	0.2	0.2	0.20	0.2	0.0	0.08
01/13/97	0.0	0.0	0.00	0.2	0.2	0.20	0.2	0.0	0.16
01/14/97	0.0	0.0	0.00	0.2	0.0	0.18	0.2	0.0	0.02
01/15/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/16/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/17/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/18/97	0.0	0.0	0.00	0.2	0.2	0.20	0.0	0.0	0.00
01/19/97	0.0	0.0	0.00	0.2	0.2	0.20	0.2	0.0	0.13
01/20/97	0.0	0.0	0.00	0.2	0.2	0.20	0.2	0.2	0.20
01/21/97	0.0	0.0	0.00	0.2	0.2	0.20	0.2	0.2	0.20
01/22/97	0.0	0.0	0.00	0.2	0.2	0.20	0.2	0.0	0.09
01/23/97	0.0	0.0	0.00	0.2	0.0	0.08	0.0	0.0	0.00
01/24/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/25/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.13
01/26/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/27/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/28/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/29/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/30/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/31/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.09
02/01/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
02/02/97	0.0	0.0	0.00	0.2	0.0	0.18	0.2	0.0	0.18
02/03/97	0.0	0.0	0.00	0.2	0.2	0.20	0.2	0.0	0.18
02/04/97	0.0	0.0	0.00	0.2	0.2	0.20	0.2	0.2	0.20
02/05/97	0.0	0.0	0.00	0.2	0.2	0.20	0.2	0.2	0.20
02/06/97	0.0	0.0	0.00	0.2	0.2	0.20	0.2	0.0	0.17
02/07/97	0.0	0.0	0.00	0.2	0.2	0.20	0.2	0.2	0.20
02/08/97	0.0	0.0	0.00	0.2	0.2	0.20	0.2	0.0	0.12
02/09/97	0.0	0.0	0.00	0.2	0.0	0.19	0.0	0.0	0.00
02/10/97	0.0	0.0	0.00	0.2	0.0	0.08	0.0	0.0	0.00
02/11/97	0.0	0.0	0.00	0.2	0.2	0.20	0.2	0.0	0.03
02/12/97	0.0	0.0	0.00	0.4	0.2	0.28	0.2	0.2	0.20
02/13/97	0.0	0.0	0.00	0.4	0.4	0.40	0.2	0.2	0.20
02/14/97	0.0	0.0	0.00	0.4	0.4	0.40	0.4	0.2	0.36
02/15/97	0.0	0.0	0.00	0.4	0.4	0.40	0.4	0.2	0.33
02/16/97	0.0	0.0	0.00	0.4	0.2	0.35	0.4	0.2	0.38
02/17/97	0.0	0.0	0.00	0.5	0.4	0.44	0.5	0.2	0.32
02/18/97	0.1	0.0	0.05	0.5	0.4	0.44	0.5	0.4	0.43
02/19/97	0.1	0.0	0.08	0.5	0.4	0.44	0.7	0.4	0.51
02/20/97	0.1	0.0	0.10	0.7	0.4	0.51	0.7	0.5	0.55
02/21/97	0.1	0.1	0.10	0.7	0.5	0.53	0.7	0.5	0.59
02/22/97	0.1	0.1	0.10	0.7	0.5	0.55	0.9	0.5	0.60
02/23/97	0.1	0.1	0.10	0.5	0.4	0.49	0.7	0.4	0.52
02/24/97	0.1	0.0	0.09	0.5	0.4	0.45	0.7	0.4	0.50
02/25/97	0.1	0.0	0.08	0.5	0.4	0.46	0.7	0.2	0.49
02/26/97	0.1	0.0	0.10	0.7	0.5	0.53	0.7	0.4	0.54
02/27/97	0.1	0.0	0.09	0.5	0.4	0.45	0.7	0.4	0.49
02/28/97	0.1	0.0	0.09	0.5	0.4	0.42	0.7	0.4	0.46
03/01/97	0.1	0.0	0.01	0.4	0.0	0.12	0.4	0.2	0.23

Table 2. WATER TEMPERATURES (°C) GLUSKIE, FORFAR, and KYNOCH CREEKS 1996 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
03/02/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
03/03/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
03/04/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.13
03/05/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
03/06/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
03/07/97	0.0	0.0	0.00	0.2	0.0	0.17	0.2	0.0	0.09
03/08/97	0.0	0.0	0.00	0.2	0.0	0.18	0.2	0.2	0.20
03/09/97	0.0	0.0	0.00	0.2	0.0	0.19	0.2	0.0	0.14
03/10/97	0.0	0.0	0.00	0.4	0.2	0.28	0.4	0.2	0.26
03/11/97	0.0	0.0	0.00	0.2	0.0	0.14	0.2	0.2	0.20
03/12/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.10
03/13/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.13
03/14/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.13
03/15/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
03/16/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
03/17/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.11
03/18/97	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
03/19/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.13
03/20/97	0.0	0.0	0.00	0.2	0.0	0.09	0.2	0.2	0.20
03/21/97	0.0	0.0	0.00	0.2	0.2	0.20	0.2	0.2	0.20
03/22/97	0.0	0.0	0.00	0.4	0.2	0.33	0.4	0.2	0.32
03/23/97	0.1	0.0	0.01	0.5	0.4	0.42	0.9	0.4	0.57
03/24/97	0.1	0.0	0.02	0.5	0.2	0.43	0.7	0.4	0.56
03/25/97	0.0	0.0	0.00	0.5	0.2	0.41	0.9	0.5	0.67
03/26/97	0.1	0.0	0.03	0.7	0.4	0.50	1.2	0.5	0.69
03/27/97	0.1	0.0	0.05	0.7	0.2	0.47	0.9	0.4	0.63
03/28/97	0.3	0.0	0.08	1.0	0.4	0.62	1.5	0.5	0.79
03/29/97	0.3	0.0	0.10	0.9	0.5	0.66	1.4	0.5	0.83
03/30/97	0.3	0.0	0.07	0.9	0.4	0.63	1.0	0.5	0.73
03/31/97	0.3	0.0	0.13	1.0	0.4	0.68	1.4	0.5	0.85
04/01/97	0.3	0.0	0.11	0.9	0.4	0.64	1.2	0.4	0.75
04/02/97	0.5	0.0	0.15	1.0	0.4	0.68	1.5	0.5	0.88
04/03/97	0.3	0.0	0.11	1.0	0.2	0.59	1.5	0.4	0.79
04/04/97	0.6	0.0	0.19	1.2	0.4	0.69	1.5	0.5	0.87
04/05/97	0.6	0.0	0.17	1.2	0.2	0.61	1.7	0.4	0.80
04/06/97	0.6	0.0	0.16	1.2	0.2	0.63	1.7	0.4	0.83
04/07/97	0.6	0.0	0.17	1.4	0.2	0.69	1.7	0.4	0.86
04/08/97	0.6	0.0	0.19	1.4	0.4	0.74	1.9	0.5	0.94
04/09/97	0.8	0.0	0.19	1.4	0.4	0.80	1.9	0.5	0.99
04/10/97	0.8	0.0	0.20	1.5	0.2	0.78	1.9	0.4	0.88
04/11/97	0.8	0.0	0.23	1.5	0.2	0.78	1.7	0.4	0.89
04/12/97	0.5	0.0	0.23	1.2	0.7	0.91	1.4	0.7	0.94
04/13/97	0.1	0.0	0.07	0.7	0.4	0.55	0.7	0.4	0.62
04/14/97	0.5	0.0	0.18	1.2	0.4	0.76	1.2	0.5	0.72
04/15/97	0.5	0.0	0.18	1.2	0.4	0.74	1.0	0.5	0.70
04/16/97	0.1	0.0	0.03	1.0	0.2	0.38	1.4	0.5	0.78
04/17/97	0.3	0.0	0.03	1.5	0.2	0.73	1.4	0.5	0.82
04/18/97	0.1	0.0	0.03	1.4	0.4	0.88	1.0	0.4	0.67
04/19/97	0.8	0.0	0.20	2.1	0.4	1.04	1.7	0.4	0.90
04/20/97	0.3	0.0	0.04	1.5	0.4	0.86	1.5	0.7	0.93
04/21/97	0.5	0.0	0.08	1.7	0.5	0.93	1.2	0.5	0.77
04/22/97	0.6	0.0	0.15	2.2	0.4	1.03	1.7	0.4	0.85
04/23/97	0.8	0.0	0.15	2.1	0.4	0.95	1.7	0.4	0.86
04/24/97	0.6	0.0	0.12	2.1	0.5	0.96	1.9	0.4	0.89
04/25/97	0.5	0.0	0.12	2.1	0.5	0.97	1.9	0.4	0.94
04/26/97	0.1	0.0	0.01	0.5	0.0	0.31	0.7	0.4	0.58
04/27/97	0.3	0.0	0.03	1.4	0.2	0.51	1.4	0.4	0.71
04/28/97	0.1	0.0	0.03	1.7	0.4	0.95	1.2	0.2	0.66
04/29/97	0.1	0.0	0.05	1.9	0.7	1.14	0.9	0.4	0.63
04/30/97	1.0	0.0	0.36	2.2	0.4	1.20	1.0	0.4	0.65
05/01/97	1.5	0.1	0.54	2.6	0.5	1.30	1.4	0.4	0.74



Table 2. WATER TEMPERATURES (°C) GLUSKIE, FORFAR, and KYNOCH CREEKS 1996 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
05/02/97	1.6	0.1	0.66	2.9	0.5	1.40	1.7	0.4	0.90
05/03/97	1.1	0.3	0.59	2.1	0.9	1.25	1.5	0.5	0.90
05/04/97	1.1	0.3	0.58	2.1	0.7	1.32	2.1	0.5	1.28
05/05/97	1.3	0.3	0.65	2.1	0.7	1.26	2.2	0.5	1.21
05/06/97	1.5	0.3	0.71	2.6	0.7	1.36	2.2	0.5	1.09
05/07/97	1.5	0.5	0.84	2.4	0.9	1.49	1.9	0.7	1.20
05/08/97	2.0	0.5	1.16	2.6	0.7	1.53	2.2	0.7	1.45
05/09/97	2.3	0.8	1.40	2.7	1.0	1.69	2.9	0.9	1.70
05/10/97	2.7	0.8	1.57	3.3	0.9	1.88	3.3	0.9	1.88
05/11/97	2.8	0.8	1.66	3.4	1.0	1.94	3.4	1.0	1.95
05/12/97	2.5	1.0	1.48	2.9	1.0	1.69	3.3	1.0	1.80
05/13/97	2.3	0.8	1.39	3.1	0.9	1.71	2.9	1.0	1.75
05/14/97	2.5	0.8	1.47	3.3	1.2	1.90	2.4	1.2	1.64
05/15/97	2.2	1.0	1.56	2.9	1.4	1.93	3.1	1.4	1.96
05/16/97	1.8	1.5	1.59	2.6	1.5	1.86	2.2	1.4	1.66
05/17/97	3.0	1.5	2.15	3.4	1.5	2.29	3.8	1.4	2.13
05/18/97	3.2	1.8	2.43	3.6	1.5	2.46	4.0	1.5	2.59
05/19/97	2.7	2.0	2.36	2.9	1.9	2.39	3.1	2.1	2.46
05/20/97	2.8	2.0	2.41	3.3	1.9	2.55	4.0	1.9	2.78
05/21/97	2.8	1.6	2.33	3.1	1.5	2.47	3.1	1.9	2.55
05/22/97	3.5	1.5	2.59	4.7	1.4	2.92	5.0	1.5	3.15
05/23/97	4.2	2.0	3.15	5.0	1.7	3.28	5.6	1.9	3.61
05/24/97	5.0	2.7	3.67	5.4	2.4	3.65	6.0	2.6	4.03
05/25/97	4.2	2.7	3.51	4.5	2.2	3.33	5.0	2.6	3.66
05/26/97	4.4	2.7	3.59	4.7	2.2	3.25	4.9	2.2	3.57
05/27/97	4.2	3.0	3.61	4.5	2.4	3.30	4.9	2.6	3.59
05/28/97	4.1	2.8	3.49	4.3	2.4	3.26	4.3	2.6	3.33
05/29/97	3.9	3.0	3.45	3.6	2.6	2.97	4.0	2.6	3.19
05/30/97	4.2	2.7	3.46	4.3	2.2	3.00	3.8	2.4	3.08
05/31/97	4.2	3.2	3.62	3.4	2.6	2.97	3.3	2.7	2.98
06/01/97	4.2	3.2	3.72	4.1	2.6	3.15	3.1	2.7	2.84
06/02/97	5.0	3.4	4.05	4.9	2.7	3.49	3.8	2.7	3.15
06/03/97	5.5	3.4	4.40	5.4	2.7	3.85	5.8	3.3	4.11
06/04/97	4.8	3.9	4.32	3.6	3.1	3.42	4.3	3.4	3.65
06/05/97	5.0	3.5	4.25	4.7	2.9	3.64	4.0	3.1	3.38
06/06/97	4.6	3.5	4.14	4.3	2.9	3.59	4.7	3.3	3.73
06/07/97	4.8	3.7	4.33	4.5	2.9	3.68	5.0	3.4	4.22
06/08/97	4.8	3.5	4.26	4.5	2.7	3.73	5.6	3.3	4.35
06/09/97	5.1	3.4	4.36	5.0	2.7	3.95	5.6	3.3	4.46
06/10/97	6.1	3.5	4.90	6.1	2.9	4.46	6.9	3.3	5.00
06/11/97	6.6	4.8	5.84	6.0	3.8	4.90	6.1	4.1	5.27
06/12/97	6.6	5.0	5.88	6.0	3.8	4.77	6.1	3.8	5.03
06/13/97	6.4	5.3	5.91	6.0	4.1	4.91	5.2	4.1	4.63
06/14/97	6.2	5.0	5.65	5.8	4.0	4.88	4.9	4.0	4.26
06/15/97	7.0	5.7	6.27	6.1	4.7	5.21	4.9	4.5	4.62
06/16/97	6.8	5.0	6.01	6.5	4.0	5.14	5.0	4.5	4.61
06/17/97	7.4	5.7	6.49	6.7	4.9	5.67	7.3	4.9	6.12
06/18/97	7.4	5.5	6.40	6.5	4.3	5.43	7.3	5.0	6.15
06/19/97	7.0	5.3	6.24	6.7	4.5	5.62	7.5	5.0	6.27
06/20/97	6.8	5.7	6.27	5.8	4.9	5.43	6.7	5.6	6.10
06/21/97	6.8	5.9	6.26	6.0	5.0	5.50	6.5	5.8	6.09
06/22/97	7.6	5.9	6.76	7.3	5.0	6.20	8.0	5.6	6.83
06/23/97	7.9	6.1	7.10	8.0	5.4	6.73	8.8	6.1	7.55
06/24/97	7.9	6.6	7.31	8.0	6.0	7.05	8.6	6.9	7.88
06/25/97	8.5	6.6	7.58	8.8	6.1	7.44	9.4	6.9	8.23
06/26/97	8.1	7.2	7.58	7.8	6.7	7.25	8.8	7.7	8.06
06/27/97	7.6	6.4	6.94	7.1	6.0	6.48	7.7	6.7	7.27
06/28/97	7.9	6.6	7.25	8.0	6.1	7.04	8.8	6.9	7.65
06/29/97	7.8	6.6	7.29	8.0	6.5	7.35	9.0	7.1	8.15
06/30/97	8.5	7.2	7.73	8.4	7.1	7.70	8.6	7.8	8.22
07/01/97	8.7	7.2	7.95	8.8	6.9	7.93	8.8	7.5	8.33

Table 2. WATER TEMPERATURES (°C) GLUSKIE, FORFAR, and KYNOCH CREEKS 1996 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
07/02/97	8.3	7.2	7.80	8.6	7.1	7.85	9.0	7.5	8.29
07/03/97	8.9	6.8	7.85	9.4	6.7	8.11	10.2	7.1	8.50
07/04/97	9.1	7.2	8.14	9.8	7.3	8.68	10.9	7.7	9.20
07/05/97	10.1	8.1	9.06	11.1	8.6	9.91	11.9	9.0	10.38
07/06/97	9.5	8.3	8.90	10.2	8.4	9.21	10.9	9.0	9.92
07/07/97	8.7	7.0	7.79	8.8	6.9	7.97	9.0	7.5	8.47
07/08/97	9.3	7.8	8.45	9.4	8.0	8.63	10.0	8.6	9.20
07/09/97	8.5	7.4	8.09	8.8	7.1	8.18	9.4	7.8	8.79
07/10/97	9.1	7.6	8.35	9.6	7.7	8.73	10.9	8.0	9.24
07/11/97	9.7	7.9	8.80	10.7	8.4	9.58	11.9	8.6	10.10
07/12/97	10.5	8.5	9.44	11.1	9.0	10.14	11.9	9.6	10.71
07/13/97	10.5	9.3	9.81	11.1	9.6	10.28	12.1	10.2	10.98
07/14/97	10.5	8.9	9.59	10.9	9.2	10.06	12.1	9.8	10.85
07/15/97	9.9	8.9	9.44	10.4	9.0	9.82	11.5	9.4	10.48
07/16/97	10.3	8.7	9.44	10.7	8.8	9.68	11.3	9.2	10.28
07/17/97	9.7	8.1	9.00	10.4	8.0	9.26	11.7	8.6	10.09
07/18/97	9.5	8.5	9.05	10.2	8.6	9.41	10.4	8.8	9.71
07/19/97	10.1	8.7	9.32	10.4	9.0	9.72	11.5	9.4	10.45
07/20/97	10.1	9.1	9.53	10.7	9.4	10.05	11.5	9.8	10.67
07/21/97	10.5	9.1	9.72	11.1	9.4	10.24	11.7	10.0	10.82
07/22/97	10.8	9.3	9.88	10.7	9.4	9.98	11.7	9.8	10.70
07/23/97	10.3	8.9	9.70	10.0	8.6	9.31	10.9	9.2	10.05
07/24/97	9.9	8.7	9.19	9.8	8.2	8.99	10.9	8.8	9.80
07/25/97	10.1	8.7	9.33	10.2	8.6	9.34	12.1	9.2	10.35
07/26/97	10.3	8.9	9.52	10.7	8.6	9.63	11.7	9.2	10.43
07/27/97	10.8	9.3	9.97	11.1	9.2	10.12	12.1	9.8	10.90
07/28/97	11.0	9.5	10.28	11.5	9.8	10.57	13.5	10.2	11.58
07/29/97	11.4	9.9	10.58	11.7	10.0	10.71	13.3	10.7	11.72
07/30/97	11.6	10.1	10.75	11.9	10.2	10.89	12.8	10.9	11.67
07/31/97	10.8	9.3	9.99	10.4	9.0	9.79	11.7	9.4	10.61
08/01/97	10.8	9.1	9.75	10.4	8.8	9.63	11.3	9.2	10.26
08/02/97	10.5	8.7	9.55	10.7	8.6	9.67	11.3	9.0	10.20
08/03/97	10.8	9.3	9.98	11.1	9.2	10.13	11.9	9.8	10.68
08/04/97	11.2	9.9	10.53	11.3	10.0	10.69	12.8	10.4	11.46
08/05/97	11.8	9.9	10.90	12.6	10.2	11.25	13.9	10.7	12.06
08/06/97	12.0	10.1	10.93	12.1	10.2	11.17	13.7	10.9	12.06
08/07/97	11.2	10.1	10.56	11.1	10.0	10.56	11.7	10.7	11.06
08/08/97	11.6	9.7	10.43	10.9	9.4	10.23	11.9	10.2	10.94
08/09/97	11.6	9.7	10.70	11.9	9.4	10.64	13.3	10.0	11.43
08/10/97	11.2	9.7	10.49	12.4	9.6	11.00	13.0	10.4	11.73
08/11/97	11.6	10.3	10.98	12.8	10.7	11.68	13.5	11.1	12.18
08/12/97	12.2	11.0	11.49	13.3	11.1	12.13	13.5	11.3	12.36
08/13/97	13.1	11.8	12.38	14.4	11.9	12.89	15.3	11.7	13.28
08/14/97	13.1	11.8	12.50	13.0	11.9	12.53	14.6	12.4	13.38
08/15/97	12.2	11.2	11.68	12.1	11.1	11.67	13.3	11.9	12.39
08/16/97	11.6	9.3	10.85	11.7	9.2	10.48	13.0	10.4	11.84
08/17/97	11.2	9.1	10.21	11.3	9.0	10.26	12.8	9.8	11.36
08/18/97	12.0	10.1	10.92	11.9	10.2	10.94	13.3	10.7	11.90
08/19/97	11.8	10.1	10.90	11.7	9.8	10.80	12.8	10.4	11.60
08/20/97	12.2	9.7	10.77	11.9	9.6	10.82	13.3	10.0	11.59
08/21/97	11.6	10.5	11.03	11.5	10.4	11.07	12.1	10.9	11.60
08/22/97	11.8	10.8	11.23	12.4	10.9	11.38	12.8	11.1	11.84
08/23/97	11.8	10.3	10.97	11.7	10.2	10.92	12.4	10.7	11.52
08/24/97	11.4	10.1	10.79	11.1	10.0	10.50	11.7	10.7	11.15
08/25/97	11.6	9.7	10.72	11.3	9.4	10.49	12.4	10.0	11.28
08/26/97	12.2	10.3	11.20	11.9	10.2	11.00	12.4	10.7	11.48
08/27/97	11.4	10.3	10.85	10.9	10.0	10.57	11.5	10.7	11.21
08/28/97	11.0	9.3	10.27	10.7	9.0	9.86	11.3	9.6	10.40
08/29/97	11.2	9.9	10.48	10.2	9.2	9.76	10.7	9.8	10.18
08/30/97	10.8	9.1	9.93	10.4	8.4	9.38	10.4	8.8	9.67
08/31/97	10.5	8.9	9.68	10.4	8.6	9.38	11.1	8.8	9.86

Table 2. WATER TEMPERATURES (°C) GLUSKIE, FORFAR, and KYNOCH CREEKS 1996 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
09/01/97	9.7	8.1	9.09	10.0	7.8	8.98	10.9	8.2	9.48
09/02/97	11.2	9.1	9.86	11.1	9.2	9.85	11.7	9.4	10.32
09/03/97	10.1	8.5	9.30	10.2	8.4	9.28	11.3	9.0	10.05
09/04/97	10.1	8.5	9.11	10.0	8.4	9.11	10.7	8.8	9.61
09/05/97	8.7	7.9	8.21	8.6	7.8	8.21	9.2	8.4	8.64
09/06/97	8.5	7.6	7.90	8.4	7.3	7.83	9.0	7.7	8.32
09/07/97	8.3	7.0	7.65	8.2	6.9	7.63	9.2	7.3	8.18
09/08/97	9.1	7.4	8.08	9.2	7.5	8.34	9.6	7.7	8.56
09/09/97	9.7	7.9	8.70	9.8	8.2	8.93	10.7	8.4	9.35
09/10/97	9.5	8.3	8.92	9.4	8.6	9.05	9.6	8.8	9.23
09/11/97	9.1	7.9	8.54	8.8	7.7	8.23	9.0	8.0	8.57
09/12/97	8.7	7.0	7.79	8.0	6.7	7.53	8.2	7.1	7.73
09/13/97	8.5	7.2	7.89	8.4	7.3	7.82	8.8	7.3	8.05
09/14/97	7.8	7.0	7.33	7.8	6.5	7.39	7.8	7.3	7.65
09/15/97	7.0	6.4	6.62	6.5	6.0	6.24	7.3	6.5	6.83
09/16/97	7.0	6.2	6.53	6.9	5.8	6.32	7.5	6.1	6.73
09/17/97	6.6	6.1	6.32	6.5	5.8	6.19	6.7	6.1	6.43
09/18/97	6.4	4.8	5.62	6.0	4.3	5.31	6.3	4.9	5.62
09/19/97	6.8	5.1	6.03	6.5	5.2	5.89	6.5	5.2	5.91
09/20/97	7.0	5.9	6.42	7.1	5.8	6.44	7.1	5.8	6.46
09/21/97	7.6	6.4	7.01	8.0	6.7	7.29	8.2	6.5	7.29
09/22/97	7.9	6.6	7.25	8.2	6.5	7.40	8.0	6.5	7.32
09/23/97	8.7	7.2	7.85	9.0	7.3	8.12	8.6	7.1	7.89
09/24/97	8.5	7.4	7.90	8.6	7.3	7.96	8.8	7.3	7.99
09/25/97	8.3	7.2	7.81	8.6	7.1	7.78	8.2	7.1	7.70
09/26/97	7.9	7.4	7.82	8.0	7.3	7.88	8.0	7.5	7.88
09/27/97	7.9	7.0	7.40	7.8	6.7	7.19	8.2	6.7	7.43
09/28/97	7.7	6.5	7.23	7.7	6.3	7.11	8.2	6.9	7.56
09/29/97	6.3	5.2	5.85	6.1	4.9	5.53	6.9	5.4	6.10
09/30/97	6.0	5.4	5.75	5.6	5.2	5.32	6.0	5.6	5.87
10/01/97	5.8	4.9	5.35	5.2	4.5	4.88	5.6	4.7	5.18
10/02/97	5.2	4.5	4.81	4.7	3.8	4.24	5.0	4.1	4.61
10/03/97	4.3	3.6	4.03	3.6	3.1	3.38	4.1	3.4	3.71
10/04/97	4.0	3.3	3.63	3.6	2.7	3.12	4.0	2.9	3.39
10/05/97	3.8	2.7	3.32	3.6	2.2	2.86	4.0	2.6	3.15
10/06/97	3.6	2.9	3.29	3.4	2.2	2.84	3.8	2.7	3.23
10/07/97	3.3	2.7	3.04	2.7	2.2	2.54	3.3	2.7	2.96
10/08/97	2.7	1.5	2.26	2.1	0.7	1.58	2.7	1.4	2.23
10/09/97	1.5	0.5	1.10	0.9	0.2	0.66	1.2	0.5	0.99
10/10/97	1.7	1.4	1.55	1.4	0.7	1.12	1.7	1.0	1.36
10/11/97	1.9	1.4	1.57	1.5	0.7	1.05	1.7	1.0	1.34
10/12/97	1.5	0.4	1.15	1.2	0.0	0.65	1.4	0.2	0.99
10/13/97	1.7	0.2	0.96	1.4	0.0	0.58	1.7	0.2	0.95
10/14/97	2.4	1.5	2.02	2.4	1.0	1.79	2.2	1.0	1.66
10/15/97	3.1	2.4	2.76	3.1	2.1	2.58	2.6	1.9	2.30
10/16/97	3.1	2.9	3.02	3.1	2.6	2.79	3.1	2.2	2.62
10/17/97	2.9	2.4	2.68	2.6	1.9	2.30	2.4	1.7	2.15
10/18/97	2.9	2.4	2.68	2.6	1.9	2.22	2.6	1.7	2.15
10/19/97	2.6	1.9	2.18	1.9	1.2	1.64	1.9	1.2	1.53
10/20/97	2.7	2.2	2.44	2.4	1.7	2.10	2.2	1.5	1.86
10/21/97	3.3	2.7	2.94	3.1	2.4	2.80	2.7	2.2	2.52
10/22/97	3.6	2.9	3.24	3.3	2.4	2.95	3.3	2.6	2.83
10/23/97	2.9	2.4	2.62	2.4	1.7	2.03	2.4	1.7	2.00
10/24/97	2.2	2.1	2.13	1.7	1.4	1.55	1.7	1.2	1.45
10/25/97	2.7	1.5	2.24	2.6	1.5	2.06	2.1	1.0	1.58
10/26/97	3.1	2.6	2.79	3.1	2.2	2.62	2.9	2.1	2.40
10/27/97	2.7	2.2	2.48	2.2	1.7	1.95	2.2	1.7	2.02
10/28/97	2.7	2.2	2.42	2.4	1.7	2.09	2.4	1.7	2.05
10/29/97	2.7	2.4	2.62	2.6	2.1	2.33	2.4	1.9	2.22
10/30/97	3.3	2.7	2.94	3.1	2.2	2.64	2.9	2.2	2.58
10/31/97	3.1	2.7	2.92	3.1	2.4	2.71	3.1	2.6	2.73

Table 2. WATER TEMPERATURES ( C ) GLUSKIE, FORFAR, and KYNOCH CREEKS 1996 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
11/01/97	2.9	2.2	2.53	2.4	1.7	2.08	2.4	1.7	2.08
11/02/97	2.7	2.2	2.55	2.4	1.7	2.10	2.2	1.5	1.94
11/03/97	2.6	2.2	2.43	2.1	1.7	1.98	2.2	1.9	2.02
11/04/97	2.6	2.4	2.49	2.4	1.9	2.05	2.2	2.1	2.12
11/05/97	2.7	2.2	2.63	2.6	1.9	2.38	2.6	1.9	2.30
11/06/97	2.2	1.0	1.63	1.7	0.5	1.02	1.9	0.5	1.12
11/07/97	1.0	0.2	0.54	0.5	0.0	0.14	0.5	0.2	0.40
11/08/97	0.2	0.2	0.20	0.2	0.0	0.05	0.5	0.2	0.34
11/09/97	0.2	0.0	0.17	0.2	0.0	0.03	0.5	0.2	0.39
11/10/97	0.2	0.0	0.02	0.0	0.0	0.00	0.4	0.2	0.25
11/11/97	0.2	0.0	0.12	0.2	0.0	0.01	0.5	0.2	0.37
11/12/97	0.2	0.0	0.06	0.2	0.0	0.04	0.7	0.2	0.44
11/13/97	0.2	0.0	0.06	0.2	0.0	0.04	0.5	0.4	0.43
11/14/97	0.2	0.0	0.03	0.0	0.0	0.00	0.4	0.2	0.24
11/15/97	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.4	0.40
11/16/97	0.2	0.0	0.01	0.0	0.0	0.00	0.5	0.4	0.42
11/17/97	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.4	0.44
11/18/97	0.2	0.0	0.03	0.0	0.0	0.00	0.5	0.5	0.50
11/19/97	0.4	0.0	0.23	0.4	0.0	0.14	0.7	0.5	0.62
11/20/97	0.7	0.4	0.51	0.5	0.4	0.44	1.0	0.7	0.80
11/21/97	0.7	0.4	0.53	0.5	0.2	0.40	0.9	0.5	0.65
11/22/97	0.5	0.4	0.46	0.5	0.2	0.40	0.9	0.5	0.73
11/23/97	0.5	0.2	0.27	0.5	0.0	0.20	0.7	0.4	0.52
11/24/97	0.7	0.5	0.58	0.7	0.5	0.58	0.9	0.5	0.79
11/25/97	0.5	0.2	0.42	0.7	0.2	0.45	0.7	0.5	0.58
11/26/97	0.4	0.2	0.27	0.5	0.0	0.35	0.7	0.4	0.55
11/27/97	0.7	0.2	0.50	0.9	0.0	0.64	0.9	0.4	0.77
11/28/97	0.9	0.7	0.74	0.9	0.5	0.77	1.0	0.7	0.87
11/29/97	0.5	0.4	0.45	0.7	0.4	0.52	0.9	0.5	0.63
11/30/97	0.7	0.4	0.59	0.7	0.4	0.60	0.9	0.5	0.66
12/01/97	0.4	0.0	0.19	0.7	0.2	0.48	0.9	0.4	0.61
12/02/97	0.7	0.4	0.52	0.9	0.4	0.69	0.9	0.5	0.84
12/03/97	0.4	0.0	0.17	0.4	0.0	0.21	0.5	0.2	0.41
12/04/97	0.2	0.0	0.01	0.2	0.0	0.10	0.5	0.2	0.34
12/05/97	0.2	0.0	0.01	0.5	0.0	0.35	0.7	0.4	0.58
12/06/97	0.2	0.0	0.18	0.5	0.2	0.38	0.7	0.4	0.53
12/07/97	0.0	0.0	0.00	0.2	0.0	0.01	0.4	0.0	0.22
12/08/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.19
12/09/97	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.23
12/10/97	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.2	0.34
12/11/97	0.0	0.0	0.00	0.4	0.0	0.11	0.7	0.4	0.53
12/12/97	0.2	0.0	0.09	0.7	0.4	0.55	0.9	0.5	0.68
12/13/97	0.4	0.2	0.28	0.9	0.5	0.69	0.9	0.5	0.76
12/14/97	0.4	0.4	0.40	0.9	0.5	0.70	0.9	0.7	0.82
12/15/97	0.4	0.0	0.13	0.5	0.0	0.20	0.5	0.2	0.36
12/16/97	0.4	0.0	0.21	0.7	0.2	0.47	0.7	0.2	0.57
12/17/97	0.4	0.0	0.26	0.7	0.0	0.40	0.7	0.2	0.52
12/18/97	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
12/19/97	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.21
12/20/97	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.4	0.43
12/21/97	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.23
12/22/97	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.31
12/23/97	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.4	0.45
12/24/97	0.2	0.0	0.06	0.2	0.0	0.08	0.5	0.4	0.43
12/25/97	0.2	0.0	0.13	0.4	0.0	0.23	0.7	0.4	0.46
12/26/97	0.4	0.2	0.24	0.5	0.4	0.45	0.7	0.5	0.64
12/27/97	0.2	0.2	0.20	0.4	0.2	0.36	0.5	0.4	0.46
12/28/97	0.4	0.2	0.31	0.7	0.2	0.54	0.9	0.5	0.66
12/29/97	0.4	0.2	0.25	0.5	0.2	0.28	0.7	0.4	0.47
12/30/97	0.5	0.2	0.31	0.7	0.2	0.47	0.7	0.4	0.57
12/31/97	0.4	0.0	0.35	0.5	0.0	0.43	0.7	0.2	0.61

Table 2. WATER TEMPERATURES (°C) GLUSKIE, FORFAR, and KYNOCH CREEKS 1996 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
01/01/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/02/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.14
01/03/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.13
01/04/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/05/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/06/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/07/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/08/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/09/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.27
01/10/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/11/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.17
01/12/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/13/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/14/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/15/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.23
01/16/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.4	0.40
01/17/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.39
01/18/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.4	0.40
01/19/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.4	0.40
01/20/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.25
01/21/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.29
01/22/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.38
01/23/98	0.0	0.0	0.00	0.2	0.0	0.01	0.4	0.2	0.33
01/24/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.33
01/25/98	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.4	0.43
01/26/98	0.0	0.0	0.00	0.2	0.0	0.12	0.5	0.4	0.47
01/27/98	0.0	0.0	0.00	0.2	0.2	0.20	0.5	0.4	0.44
01/28/98	0.0	0.0	0.00	0.2	0.0	0.19	0.5	0.2	0.41
01/29/98	0.0	0.0	0.00	0.2	0.0	0.14	0.5	0.2	0.41
01/30/98	0.0	0.0	0.00	0.4	0.2	0.26	0.5	0.4	0.48
01/31/98	0.0	0.0	0.00	0.4	0.0	0.24	0.5	0.4	0.44
02/01/98	0.0	0.0	0.00	0.2	0.0	0.03	0.4	0.2	0.39
02/02/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.36
02/03/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.4	0.40
02/04/98	0.0	0.0	0.00	0.2	0.0	0.01	0.4	0.4	0.40
02/05/98	0.0	0.0	0.00	0.2	0.0	0.18	0.5	0.4	0.46
02/06/98	0.0	0.0	0.00	0.4	0.2	0.32	0.7	0.5	0.55
02/07/98	0.0	0.0	0.00	0.4	0.2	0.34	0.7	0.5	0.54
02/08/98	0.2	0.0	0.02	0.4	0.4	0.40	0.7	0.5	0.58
02/09/98	0.2	0.0	0.11	0.5	0.2	0.40	0.7	0.5	0.65
02/10/98	0.2	0.0	0.13	0.4	0.2	0.38	0.7	0.5	0.54
02/11/98	0.2	0.0	0.10	0.4	0.2	0.30	0.7	0.5	0.53
02/12/98	0.2	0.0	0.01	0.4	0.0	0.18	0.5	0.4	0.45
02/13/98	0.2	0.2	0.20	0.5	0.2	0.43	0.9	0.5	0.64
02/14/98	0.2	0.0	0.18	0.5	0.2	0.41	0.7	0.5	0.61
02/15/98	0.2	0.2	0.20	0.5	0.4	0.43	0.7	0.7	0.70
02/16/98	0.2	0.0	0.17	0.5	0.2	0.34	0.9	0.5	0.59
02/17/98	0.2	0.0	0.12	0.4	0.0	0.18	0.7	0.4	0.51
02/18/98	0.2	0.0	0.15	0.5	0.2	0.33	0.7	0.5	0.59
02/19/98	0.4	0.2	0.22	0.7	0.4	0.49	0.9	0.7	0.75
02/20/98	0.2	0.0	0.13	0.4	0.0	0.23	0.7	0.5	0.57
02/21/98	0.2	0.0	0.18	0.4	0.2	0.34	0.7	0.5	0.65
02/22/98	0.2	0.0	0.15	0.4	0.0	0.31	0.7	0.5	0.63
02/23/98	0.2	0.0	0.06	0.2	0.0	0.07	0.7	0.4	0.51
02/24/98	0.2	0.0	0.04	0.0	0.0	0.00	0.5	0.0	0.33
02/25/98	0.2	0.0	0.11	0.4	0.0	0.19	0.7	0.4	0.52
02/26/98	0.0	0.0	0.00	0.2	0.0	0.02	0.5	0.2	0.35
02/27/98	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.4	0.42
02/28/98	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.4	0.50
03/01/98	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.5	0.50
03/02/98	0.0	0.0	0.00	0.2	0.0	0.05	0.5	0.5	0.50

Table 2. WATER TEMPERATURES (°C) GLUSKIE, FORFAR, and KYNOCH CREEKS 1998 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
03/03/98	0.0	0.0	0.00	0.5	0.2	0.32	0.7	0.5	0.61
03/04/98	0.2	0.0	0.04	0.5	0.2	0.34	0.9	0.5	0.65
03/05/98	0.2	0.0	0.05	0.4	0.0	0.26	0.9	0.5	0.63
03/06/98	0.0	0.0	0.00	0.0	0.0	0.00	0.7	0.2	0.36
03/07/98	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.4	0.44
03/08/98	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.4	0.47
03/09/98	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.5	0.50
03/10/98	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.4	0.46
03/11/98	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.4	0.50
03/12/98	0.0	0.0	0.00	0.0	0.0	0.00	0.7	0.4	0.54
03/13/98	0.0	0.0	0.00	0.2	0.0	0.02	0.7	0.4	0.57
03/14/98	0.0	0.0	0.00	0.7	0.2	0.37	1.0	0.4	0.63
03/15/98	0.0	0.0	0.00	0.7	0.2	0.43	0.9	0.4	0.59
03/16/98	0.2	0.0	0.08	0.7	0.0	0.34	1.2	0.2	0.56
03/17/98	0.2	0.0	0.10	0.7	0.0	0.29	1.2	0.2	0.55
03/18/98	0.4	0.2	0.24	0.9	0.4	0.58	1.4	0.4	0.73
03/19/98	0.4	0.0	0.17	0.9	0.2	0.51	1.0	0.4	0.64
03/20/98	0.5	0.2	0.31	1.4	0.5	0.80	1.7	0.5	0.90
03/21/98	0.5	0.0	0.24	1.0	0.2	0.54	1.5	0.2	0.70
03/22/98	0.5	0.0	0.28	1.4	0.0	0.63	1.4	0.2	0.70
03/23/98	0.7	0.2	0.40	1.4	0.5	0.89	1.5	0.5	0.93
03/24/98	0.5	0.2	0.34	1.4	0.2	0.73	1.5	0.4	0.75
03/25/98	0.7	0.2	0.44	1.5	0.5	0.85	1.7	0.5	0.88
03/26/98	0.7	0.2	0.35	1.2	0.2	0.58	1.4	0.4	0.71
03/27/98	0.4	0.0	0.20	0.7	0.0	0.29	1.0	0.2	0.50
03/28/98	0.5	0.0	0.24	1.0	0.0	0.32	1.4	0.0	0.58
03/29/98	0.7	0.2	0.39	1.2	0.2	0.68	1.2	0.4	0.75
03/30/98	0.9	0.4	0.55	1.4	0.5	0.95	1.7	0.5	1.00
03/31/98	0.9	0.2	0.43	1.2	0.0	0.55	1.4	0.2	0.64
04/01/98	0.7	0.0	0.37	1.2	0.0	0.48	1.5	0.0	0.68
04/02/98	0.7	0.2	0.44	1.4	0.2	0.75	1.2	0.2	0.67
04/03/98	1.0	0.0	0.45	1.5	0.0	0.64	2.1	0.0	0.73
04/04/98	0.9	0.0	0.35	1.5	0.0	0.55	2.1	0.0	0.77
04/05/98	1.2	0.2	0.56	1.9	0.2	0.87	2.4	0.2	1.03
04/06/98	1.0	0.4	0.60	1.9	0.7	1.15	2.1	0.7	1.19
04/07/98	0.9	0.2	0.51	1.5	0.5	0.94	1.4	0.5	0.95
04/08/98	1.0	0.0	0.45	1.5	0.0	0.71	1.2	0.4	0.73
04/09/98	1.2	0.0	0.47	1.4	0.0	0.60	1.4	0.2	0.71
04/10/98	1.0	0.0	0.41	1.5	0.0	0.55	1.9	0.2	0.83
04/11/98	1.2	0.0	0.46	1.7	0.0	0.67	1.7	0.2	0.85
04/12/98	1.0	0.0	0.44	1.7	0.0	0.66	1.5	0.2	0.80
04/13/98	1.7	0.2	0.75	2.2	0.4	1.03	2.7	0.4	1.14
04/14/98	1.5	0.2	0.67	2.2	0.0	0.94	2.6	0.2	1.10
04/15/98	1.4	0.2	0.67	2.1	0.2	1.10	1.9	0.4	1.09
04/16/98	1.5	0.5	0.82	2.6	0.9	1.48	2.7	0.7	1.41
04/17/98	1.0	0.2	0.59	2.2	0.4	1.23	1.9	0.5	1.13
04/18/98	0.9	0.2	0.48	1.9	0.7	1.11	1.5	0.7	0.97
04/19/98	1.4	0.0	0.38	2.2	0.5	1.07	1.9	0.5	0.95
04/20/98	1.2	0.0	0.40	1.9	0.4	1.03	1.5	0.2	0.75
04/21/98	2.4	0.2	0.67	2.6	0.5	1.37	2.4	0.4	1.02
04/22/98	2.4	0.4	1.08	2.4	0.5	1.35	2.1	0.4	1.11
04/23/98	1.4	0.4	0.77	1.9	0.9	1.25	1.7	0.5	1.02
04/24/98	2.1	0.4	0.82	2.6	0.7	1.33	2.1	0.5	1.12
04/25/98	1.7	0.4	0.93	1.9	0.5	1.10	1.7	0.4	0.97
04/26/98	1.5	0.7	1.10	1.9	0.9	1.32	1.9	0.7	1.23
04/27/98	1.7	0.5	1.08	1.9	0.7	1.27	1.9	0.7	1.23
04/28/98	1.7	0.7	1.13	1.7	0.9	1.23	1.7	0.9	1.21
04/29/98	1.9	0.4	0.90	2.6	0.7	1.36	2.2	0.5	1.32
04/30/98	2.2	0.5	1.10	3.1	0.5	1.44	3.3	0.5	1.57
05/01/98	2.1	0.5	1.16	2.6	0.7	1.35	3.1	0.7	1.57
05/02/98	2.2	0.7	1.33	2.4	0.5	1.26	2.7	0.7	1.50



Table 2. WATER TEMPERATURES (°C) GLUSKIE, FORFAR, and KYNOCH CREEKS 1998 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
05/03/98	2.6	1.2	1.78	2.9	0.9	1.65	3.1	0.9	1.77
05/04/98	3.1	0.9	1.91	3.4	0.9	1.67	3.4	0.9	1.94
05/05/98	2.9	1.2	2.04	3.3	1.0	2.02	3.3	1.0	2.02
05/06/98	3.3	1.4	2.27	3.4	1.2	2.13	3.3	1.2	2.11
05/07/98	2.9	1.5	2.29	3.1	1.2	2.10	3.4	1.2	2.23
05/08/98	3.1	1.5	2.33	3.4	1.2	2.28	3.4	1.4	2.36
05/09/98	3.8	1.5	2.63	4.1	1.4	2.65	4.7	1.5	2.90
05/10/98	4.5	1.9	3.12	4.7	1.5	2.93	5.0	1.5	3.18
05/11/98	4.3	2.6	3.46	4.5	1.9	3.03	4.7	2.1	3.30
05/12/98	4.5	2.9	3.53	4.3	2.2	2.95	4.5	2.4	3.24
05/13/98	3.8	2.7	3.24	3.4	2.1	2.65	3.8	2.2	2.66
05/14/98	3.8	2.6	3.15	3.6	1.9	2.65	3.8	2.1	2.84
05/15/98	4.0	2.2	3.13	4.1	1.9	2.98	4.5	2.2	3.30
05/16/98	4.7	2.9	3.69	4.9	2.2	3.45	5.4	2.6	3.90
05/17/98	5.0	3.6	4.21	4.5	2.7	3.45	5.0	2.9	3.70
05/18/98	5.2	3.3	4.27	5.2	2.2	3.50	5.4	2.2	3.66
05/19/98	5.0	3.4	4.29	5.0	2.4	3.55	5.6	2.4	3.93
05/20/98	5.0	3.3	4.23	5.4	2.4	3.65	5.8	2.6	4.03
05/21/98	4.9	3.6	4.40	4.7	2.9	3.63	5.0	3.1	4.03
05/22/98	5.4	3.8	4.57	4.9	2.7	3.76	5.4	3.1	4.20
05/23/98	5.8	4.0	4.92	5.4	2.9	4.08	6.0	3.3	4.65
05/24/98	6.5	4.5	5.46	5.8	3.4	4.33	6.7	3.6	5.10
05/25/98	5.8	4.7	5.20	5.0	3.3	4.06	5.6	4.0	4.56
05/26/98	6.3	4.1	5.28	4.9	2.9	3.89	4.9	3.3	3.93
05/27/98	7.3	4.9	6.05	5.4	3.8	4.55	7.3	4.5	5.72
05/28/98	7.3	5.6	6.46	6.0	4.3	5.05	7.7	4.0	5.23
05/29/98	7.8	5.8	6.83	6.7	4.7	5.54	8.5	3.8	5.00
05/30/98	8.0	6.3	7.21	6.3	5.0	5.74	8.8	4.9	6.81
05/31/98	8.2	6.9	7.53	6.9	5.6	6.08	9.2	7.3	8.24
06/01/98	7.5	6.1	6.78	6.5	5.4	5.86	8.0	6.5	7.39
06/02/98	8.0	6.1	7.15	7.3	5.8	6.33	8.8	6.7	7.91
06/03/98	8.4	6.9	7.58	8.0	6.3	7.10	9.6	7.5	8.47
06/04/98	8.8	6.5	7.68	8.4	6.1	7.36	10.0	7.1	8.48
06/05/98	9.4	6.9	8.05	9.0	6.9	7.93	10.4	7.7	9.08
06/06/98	9.8	7.7	8.70	9.8	7.7	8.68	11.1	8.6	9.91
06/07/98	10.0	7.8	9.00	9.6	8.0	8.99	11.5	8.8	10.25
06/08/98	11.1	8.4	9.74	10.7	8.6	9.66	12.1	9.4	10.83
06/09/98	10.2	9.2	9.68	10.2	9.4	9.70	11.1	10.2	10.60
06/10/98	10.2	8.6	9.33	9.6	8.8	9.20	10.9	9.4	10.15
06/11/98	9.0	7.3	8.17	9.0	7.7	8.06	9.6	8.0	8.78
06/12/98	9.2	6.9	7.98	8.4	6.9	7.73	10.2	7.1	8.69
06/13/98	10.0	7.1	8.38	9.0	7.3	8.19	10.7	7.8	9.25
06/14/98	8.6	7.8	8.17	8.8	8.0	8.27	9.4	8.6	9.07
06/15/98	8.8	7.1	8.00	8.4	7.5	7.96	9.2	7.8	8.61
06/16/98	9.0	7.1	8.07	8.6	7.5	8.12	9.4	7.7	8.77
06/17/98	9.2	7.8	8.42	8.8	7.8	8.28	10.0	8.4	9.23
06/18/98	8.8	7.8	8.27	8.4	8.0	8.18	9.8	8.6	9.18
06/19/98	9.8	7.7	8.68	9.2	7.8	8.45	11.5	8.0	9.68
06/20/98	10.7	8.4	9.55	10.2	8.6	9.38	12.6	8.8	10.71
06/21/98	11.1	8.6	9.87	10.9	9.2	10.10	13.3	9.6	11.38
06/22/98	10.4	9.2	9.73	10.7	10.0	10.22	11.7	10.7	11.13
06/23/98	9.8	8.2	9.04	10.0	8.8	9.40	11.1	9.2	10.23
06/24/98	10.4	8.2	9.10	9.8	8.6	9.17	11.5	9.0	10.18
06/25/98	10.0	8.2	9.10	9.6	8.6	9.15	11.3	9.0	10.16
06/26/98	10.2	8.6	9.38	9.6	9.0	9.38	11.1	9.4	10.30
06/27/98	11.3	8.4	9.74	10.7	8.8	9.75	12.4	9.0	10.46
06/28/98	11.5	8.6	10.06	11.3	9.2	10.26	12.6	9.2	10.97
06/29/98	11.7	9.8	10.72	11.5	10.2	10.93	12.6	10.7	11.79
06/30/98	12.1	10.2	11.03	11.7	10.7	11.26	13.0	11.1	12.10
07/01/98	11.3	10.2	10.76	11.3	10.9	11.13	12.4	11.3	11.94
07/02/98	12.4	10.2	11.21	12.1	10.9	11.48	14.2	11.3	12.60



Table 2. WATER TEMPERATURES (°C) GLUSKIE, FORFAR, and KYNOCH CREEKS 1996 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
07/03/98	13.5	10.4	11.73	12.8	11.1	11.99	14.9	11.5	13.12
07/04/98	12.8	10.7	11.58	12.4	11.3	11.89	13.5	11.7	12.72
07/05/98	12.8	10.9	11.75	12.6	11.1	11.80	13.9	11.7	12.72
07/06/98	12.8	11.1	11.90	12.6	11.5	12.11	13.9	11.9	12.70
07/07/98	11.5	10.4	11.05	11.9	10.9	11.28	12.4	11.1	11.75
07/08/98	12.1	9.4	10.70	11.7	9.8	10.71	12.6	9.8	11.26
07/09/98	12.1	9.6	10.73	12.6	9.6	10.95	12.6	10.2	11.54
07/10/98	12.4	10.4	11.29	12.6	10.9	11.63	13.7	11.3	12.38
07/11/98	11.5	10.2	10.91	11.7	10.4	11.06	12.1	11.1	11.64
07/12/98	11.3	9.6	10.54	11.1	9.6	10.52	11.9	10.2	11.03
07/13/98	10.7	9.4	10.05	10.7	9.4	9.98	11.5	9.8	10.65
07/14/98	10.4	9.2	9.70	10.2	9.0	9.53	11.1	9.6	10.28
07/15/98	10.9	8.6	9.85	10.7	8.4	9.68	11.5	9.2	10.30
07/16/98	10.4	9.4	10.03	10.2	9.4	9.91	10.9	10.0	10.46
07/17/98	11.1	10.0	10.44	11.1	9.8	10.44	11.9	10.2	10.95
07/18/98	11.5	8.8	10.26	11.5	8.8	10.30	12.4	9.4	10.94
07/19/98	11.5	10.2	10.77	11.7	10.2	10.88	13.0	10.9	11.70
07/20/98	11.7	9.2	10.40	11.5	9.0	10.20	11.9	9.6	10.82
07/21/98	11.5	9.6	10.58	11.7	9.6	10.69	12.1	9.8	11.03
07/22/98	12.6	9.4	11.07	12.6	9.6	11.10	13.3	10.0	11.65
07/23/98	12.6	10.9	11.78	12.8	11.1	11.98	13.5	11.5	12.45
07/24/98	13.5	10.9	12.05	13.0	11.3	12.16	13.5	11.5	12.54
07/25/98	13.7	11.1	12.23	13.9	11.1	12.40	14.9	11.5	12.86
07/26/98	14.4	11.3	12.62	14.4	11.3	12.68	15.3	11.7	13.30
07/27/98	13.9	11.5	12.71	14.2	11.7	12.85	14.9	12.1	13.42
07/28/98	14.4	11.3	12.90	14.6	11.7	13.09	15.6	12.1	13.62
07/29/98	15.1	12.1	13.43	15.3	12.4	13.65	16.3	12.8	14.28
07/30/98	14.4	11.5	12.91	14.6	11.7	13.14	15.6	12.4	13.84
07/31/98	14.2	11.3	12.76	14.6	11.3	12.91	15.3	11.9	13.44
08/01/98	14.2	11.5	12.65	13.9	11.5	12.66	14.9	11.9	13.19
08/02/98	13.7	10.7	12.09	13.5	10.4	11.89	14.6	10.9	12.62
08/03/98	13.7	10.7	12.12	13.5	10.7	12.03	14.4	11.3	12.68
08/04/98	14.2	11.5	12.53	13.7	11.3	12.41	14.6	11.9	13.06
08/05/98	12.4	11.5	12.09	12.4	11.3	11.95	13.3	12.1	12.66
08/06/98	12.4	10.4	11.42	12.1	10.2	11.12	13.3	11.3	12.14
08/07/98	11.7	10.4	11.10	11.5	10.0	10.85	13.0	11.1	11.94
08/08/98	11.1	10.2	10.74	10.9	10.0	10.48	11.5	10.9	11.23
08/09/98	12.6	10.4	11.34	11.9	10.0	10.90	12.6	10.7	11.47
08/10/98	11.7	9.6	10.71	11.1	9.2	10.21	12.6	10.2	11.24
08/11/98	10.2	9.2	9.84	9.8	8.8	9.42	10.7	9.6	10.29
08/12/98	12.1	9.8	10.81	11.7	9.2	10.45	12.6	10.0	11.16
08/13/98	12.4	10.0	11.20	12.1	10.0	11.12	12.6	10.4	11.58
08/14/98	12.6	10.4	11.13	11.9	10.4	11.07	12.6	10.9	11.53
08/15/98	11.9	10.0	10.71	11.7	9.8	10.63	12.1	10.4	11.28
08/16/98	11.9	9.8	10.77	11.7	9.6	10.60	11.9	10.2	11.01
08/17/98	12.4	10.2	11.00	11.9	10.0	10.87	12.8	10.4	11.44
08/18/98	12.6	10.2	11.18	12.4	10.0	11.00	13.3	10.7	11.73
08/19/98	12.4	10.0	11.01	11.9	9.8	10.73	13.0	10.2	11.46
08/20/98	11.3	9.6	10.63	11.3	9.4	10.51	12.1	10.2	11.18
08/21/98	12.4	10.0	10.99	11.9	9.8	10.83	13.0	10.4	11.54
08/22/98	12.1	9.8	10.80	11.9	9.6	10.70	12.8	10.2	11.36
08/23/98	12.4	10.0	10.88	11.9	9.6	10.63	12.4	10.2	11.27
08/24/98	11.3	9.8	10.55	11.1	9.6	10.32	11.7	10.0	10.93
08/25/98	11.7	10.2	10.88	11.1	10.0	10.40	11.5	10.4	11.00
08/26/98	10.2	9.2	9.84	10.0	8.8	9.49	10.4	9.2	9.88
08/27/98	10.9	9.0	9.87	10.2	8.6	9.30	10.9	9.0	9.87
08/28/98	11.5	9.2	10.17	11.3	8.8	9.86	12.1	9.6	10.59
08/29/98	11.5	9.2	10.40	11.3	9.0	10.10	11.9	9.6	10.76
08/30/98	11.3	8.8	9.93	10.7	8.6	9.68	11.5	9.4	10.51
08/31/98	12.1	9.2	10.45	11.3	9.0	10.04	12.4	9.6	10.89
09/01/98	12.1	10.2	11.07	11.5	9.8	10.64	12.4	10.4	11.36

Table 2. WATER TEMPERATURES (°C) GLUSKIE, FORFAR, and KYNOCH CREEKS 1996 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
09/02/98	12.4	9.6	10.83	11.1	9.4	10.34	11.9	10.2	11.18
09/03/98	9.6	8.4	9.09	9.2	7.8	8.58	10.0	8.6	9.33
09/04/98	9.4	7.7	8.56	8.8	6.9	7.91	9.2	7.5	8.44
09/05/98	9.8	7.1	8.46	9.0	6.5	7.87	9.8	7.3	8.52
09/06/98	9.2	8.6	8.90	8.8	8.0	8.39	9.2	8.6	8.88
09/07/98	9.4	8.2	8.88	9.0	7.7	8.39	9.4	8.0	8.73
09/08/98	8.6	6.9	7.90	8.0	6.5	7.39	9.0	7.3	8.10
09/09/98	7.8	6.3	7.23	7.3	6.0	6.81	7.8	6.5	7.38
09/10/98	7.8	6.7	7.39	7.3	6.1	6.88	7.7	6.5	7.24
09/11/98	8.8	7.5	8.02	8.2	7.1	7.61	8.4	7.3	7.79
09/12/98	9.0	7.5	8.12	8.6	7.1	7.80	8.8	7.5	8.01
09/13/98	8.8	7.1	7.68	7.8	6.5	7.16	8.0	6.7	7.43
09/14/98	8.2	6.3	7.04	7.1	5.8	6.40	7.5	6.3	6.77
09/15/98	7.1	5.4	6.39	6.7	4.9	5.82	7.1	5.2	6.23
09/16/98	7.8	6.1	6.83	7.3	5.8	6.38	8.0	6.1	6.84
09/17/98	7.3	5.4	6.24	6.9	5.2	6.05	7.5	5.6	6.48
09/18/98	7.3	5.4	6.33	7.1	5.4	6.21	7.7	5.8	6.65
09/19/98	7.8	5.6	6.61	7.5	5.4	6.40	7.8	5.8	6.75
09/20/98	7.5	5.6	6.40	7.1	5.4	6.26	7.8	5.8	6.68
09/21/98	8.0	5.8	6.64	7.5	5.6	6.48	7.8	5.8	6.70
09/22/98	7.7	6.0	6.59	7.1	5.6	6.30	7.7	5.8	6.68
09/23/98	7.1	6.0	6.51	7.5	5.9	6.58	7.1	6.0	6.51
09/24/98	7.8	6.3	6.92	7.1	5.8	6.55	7.1	6.0	6.52
09/25/98	7.8	6.3	7.03	7.3	6.1	6.75	7.7	6.3	6.90
09/26/98	7.8	6.1	7.00	7.7	5.8	6.71	7.5	6.0	6.74
09/27/98	8.4	6.7	7.38	8.0	6.3	7.16	7.8	6.3	7.14
09/28/98	7.5	5.8	6.56	6.9	5.8	6.38	7.3	6.1	6.73
09/29/98	6.3	5.0	5.74	6.3	4.9	5.65	6.5	5.2	5.95
09/30/98	7.1	6.1	6.57	7.1	6.0	6.46	7.1	6.1	6.64
10/01/98	7.7	6.9	7.21	7.8	6.7	7.13	7.7	6.7	7.17
10/02/98	8.9	6.0	6.50	7.1	6.0	6.52	7.1	6.3	6.76
10/03/98	6.0	5.8	5.82	6.0	5.4	5.70	6.3	5.8	6.00
10/04/98	6.1	5.2	5.68	6.1	5.0	5.53	6.1	5.4	5.79
10/05/98	5.0	4.1	4.47	4.9	3.8	4.26	5.4	4.0	4.58
10/06/98	6.3	4.7	5.59	6.3	4.7	5.61	5.8	4.1	5.16
10/07/98	5.8	4.5	5.04	5.8	4.3	4.88	5.4	4.3	4.82
10/08/98	4.7	4.0	4.38	4.5	3.6	4.20	4.5	3.8	4.23
10/09/98	4.0	2.9	3.27	3.4	2.2	2.63	3.6	2.2	2.64
10/10/98	3.4	2.9	3.17	3.4	2.6	2.97	3.4	2.6	3.00
10/11/98	2.9	2.6	2.78	2.9	2.4	2.64	3.1	2.6	2.75
10/12/98	3.1	2.2	2.70	2.7	2.2	2.58	2.7	2.1	2.41
10/13/98	4.3	3.1	3.65	4.3	2.7	3.43	4.0	2.6	3.14
10/14/98	3.4	2.7	3.19	3.4	2.7	3.16	3.3	2.6	3.05
10/15/98	2.7	2.2	2.47	2.6	2.1	2.38	2.6	2.1	2.31
10/16/98	3.3	2.2	2.78	3.4	2.2	2.79	3.1	2.1	2.51
10/17/98	3.3	2.4	2.95	3.4	2.4	2.90	3.1	2.2	2.76
10/18/98	3.3	2.2	2.76	3.1	2.1	2.59	2.9	2.1	2.44
10/19/98	4.1	3.1	3.60	4.0	2.7	3.37	3.8	2.6	3.01
10/20/98	3.8	2.9	3.38	3.6	2.9	3.27	3.4	2.9	3.15
10/21/98	3.4	2.7	3.10	3.6	2.7	3.21	3.4	2.6	2.95
10/22/98	3.4	2.4	2.90	3.3	2.6	2.94	2.9	2.2	2.61
10/23/98	3.1	2.2	2.67	2.9	2.2	2.61	2.6	2.1	2.31
10/24/98	2.9	2.2	2.62	2.7	2.1	2.42	2.4	1.7	2.08
10/25/98	4.3	2.7	3.59	4.3	2.6	3.47	3.6	2.2	2.90
10/26/98	4.1	3.6	3.92	4.0	3.4	3.72	3.8	3.3	3.50
10/27/98	4.1	3.6	3.83	4.0	3.3	3.62	3.8	3.3	3.45
10/28/98	3.6	2.2	2.84	3.4	2.1	2.63	3.3	2.1	2.66
10/29/98	2.2	1.0	1.45	1.9	0.9	1.24	2.1	1.0	1.38
10/30/98	2.1	1.0	1.57	1.9	1.0	1.45	1.7	1.0	1.34
10/31/98	2.6	2.1	2.36	2.4	1.9	2.21	2.2	1.7	2.00
11/01/98	3.3	2.6	2.89	2.9	2.4	2.60	2.9	2.2	2.48

Table 2. WATER TEMPERATURES ( C ) GLUSKIE, FORFAR, and KYNOCH CREEKS 1996 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
11/02/98	3.3	2.9	3.03	2.9	2.6	2.75	3.1	2.7	2.81
11/03/98	3.1	2.7	2.78	2.7	2.6	2.63	2.9	2.6	2.74
11/04/98	2.7	2.6	2.66	2.6	2.4	2.49	2.7	2.6	2.63
11/05/98	2.7	2.6	2.64	2.6	2.4	2.46	2.7	2.6	2.61
11/06/98	2.6	2.4	2.48	2.4	2.2	2.26	2.6	2.2	2.43
11/07/98	2.2	1.9	2.04	2.1	1.7	1.89	2.4	2.1	2.16
11/08/98	1.9	1.5	1.78	1.7	1.4	1.59	2.1	1.7	1.96
11/09/98	1.4	0.0	0.42	1.2	0.0	0.35	1.5	0.4	0.85
11/10/98	0.2	0.0	0.03	0.2	0.0	0.05	0.7	0.2	0.43
11/11/98	0.0	0.0	0.00	0.2	0.0	0.08	0.7	0.2	0.42
11/12/98	0.4	0.0	0.22	0.5	0.2	0.35	0.9	0.4	0.64
11/13/98	0.4	0.0	0.17	0.5	0.0	0.19	0.7	0.2	0.47
11/14/98	0.0	0.0	0.00	0.2	0.0	0.04	0.7	0.4	0.47
11/15/98	0.0	0.0	0.00	0.0	0.0	0.00	0.7	0.4	0.50
11/16/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.27
11/17/98	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.2	0.33
11/18/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.23
11/19/98	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.2	0.33
11/20/98	0.0	0.0	0.00	0.2	0.0	0.08	0.7	0.2	0.53
11/21/98	0.2	0.0	0.03	0.5	0.2	0.36	0.9	0.5	0.73
11/22/98	0.2	0.0	0.06	0.5	0.2	0.41	0.7	0.5	0.58
11/23/98	0.0	0.0	0.00	0.4	0.0	0.18	0.7	0.2	0.47
11/24/98	0.2	0.0	0.02	0.5	0.2	0.37	0.7	0.2	0.53
11/25/98	0.2	0.0	0.09	0.7	0.0	0.39	0.9	0.2	0.60
11/26/98	0.4	0.0	0.18	0.9	0.2	0.59	0.9	0.4	0.73
11/27/98	0.0	0.0	0.00	0.4	0.0	0.18	0.5	0.2	0.37
11/28/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
11/29/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.30
11/30/98	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.4	0.45
12/01/98	0.0	0.0	0.00	0.2	0.0	0.13	0.5	0.2	0.44
12/02/98	0.0	0.0	0.00	0.4	0.2	0.32	0.5	0.4	0.50
12/03/98	0.0	0.0	0.00	0.5	0.4	0.42	0.7	0.5	0.53
12/04/98	0.2	0.0	0.03	0.4	0.2	0.35	0.5	0.5	0.50
12/05/98	0.0	0.0	0.00	0.4	0.0	0.18	0.5	0.2	0.38
12/06/98	0.0	0.0	0.00	0.4	0.0	0.10	0.5	0.2	0.28
12/07/98	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.2	0.29
12/08/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.22
12/09/98	0.0	0.0	0.00	0.2	0.0	0.07	0.5	0.2	0.41
12/10/98	0.0	0.0	0.00	0.4	0.2	0.33	0.5	0.4	0.46
12/11/98	0.2	0.0	0.11	0.5	0.2	0.45	0.7	0.4	0.58
12/12/98	0.2	0.2	0.20	0.7	0.5	0.54	0.7	0.5	0.58
12/13/98	0.2	0.0	0.04	0.7	0.0	0.32	0.7	0.2	0.43
12/14/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
12/15/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.29
12/16/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.30
12/17/98	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.28
12/18/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
12/19/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
12/20/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.13
12/21/98	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
12/22/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.08
12/23/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.13
12/24/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.07
12/25/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
12/26/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.18
12/27/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.13
12/28/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.16
12/29/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
12/30/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.13
12/31/98	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.14
01/01/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20

Table 2. WATER TEMPERATURES ( C) GLUSKIE, FORFAR, and KYNOCH CREEKS 1996 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
01/02/99	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.28
01/03/99	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.37
01/04/99	0.0	0.0	0.00	0.0	0.0	0.00	0.5	0.4	0.43
01/05/99	0.0	0.0	0.00	0.2	0.0	0.10	0.5	0.2	0.40
01/06/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.08
01/07/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.06
01/08/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.05
01/09/99	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/10/99	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/11/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.02
01/12/99	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.0	0.23
01/13/99	0.0	0.0	0.00	0.2	0.0	0.03	0.4	0.2	0.26
01/14/99	0.0	0.0	0.00	0.2	0.0	0.14	0.5	0.2	0.40
01/15/99	0.0	0.0	0.00	0.2	0.0	0.18	0.5	0.2	0.37
01/16/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/17/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.03
01/18/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.08
01/19/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.05
01/20/99	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00
01/21/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.09
01/22/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/23/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.19
01/24/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.18
01/25/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.13
01/26/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.17
01/27/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/28/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/29/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/30/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
01/31/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.17
02/01/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.18
02/02/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.17
02/03/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.18
02/04/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
02/05/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.10
02/06/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
02/07/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.2	0.20
02/08/99	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.0	0.19
02/09/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.17
02/10/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.02
02/11/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.08
02/12/99	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.28
02/13/99	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.2	0.34
02/14/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.08
02/15/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.05
02/16/99	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.0	0.20
02/17/99	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.0	0.26
02/18/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.14
02/19/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.10
02/20/99	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.0	0.12
02/21/99	0.0	0.0	0.00	0.2	0.0	0.03	0.4	0.0	0.21
02/22/99	0.0	0.0	0.00	0.0	0.0	0.00	0.2	0.0	0.17
02/23/99	0.0	0.0	0.00	0.0	0.0	0.00	0.4	0.0	0.18
02/24/99	0.0	0.0	0.00	0.2	0.0	0.07	0.4	0.0	0.19
02/25/99	0.0	0.0	0.00	0.4	0.2	0.30	0.5	0.4	0.43
02/26/99	0.0	0.0	0.00	0.4	0.0	0.15	0.5	0.0	0.30
02/27/99	0.0	0.0	0.00	0.4	0.0	0.16	0.4	0.0	0.23
02/28/99	0.0	0.0	0.00	0.5	0.2	0.34	0.5	0.2	0.40
03/01/99	0.0	0.0	0.00	0.5	0.2	0.40	0.7	0.2	0.45
03/02/99	0.0	0.0	0.00	0.5	0.2	0.33	0.7	0.2	0.39
03/03/99	0.0	0.0	0.00	0.4	0.2	0.33	0.4	0.2	0.36

Table 2. WATER TEMPERATURES (°C) GLUSKIE, FORFAR, and KYNOCH CREEKS 1996 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
03/04/99	0.0	0.0	0.00	0.4	0.0	0.23	0.5	0.0	0.27
03/05/99	0.0	0.0	0.00	0.2	0.0	0.04	0.2	0.0	0.07
03/06/99	0.0	0.0	0.00	0.2	0.0	0.08	0.4	0.0	0.13
03/07/99	0.0	0.0	0.00	0.4	0.0	0.17	0.5	0.0	0.25
03/08/99	0.0	0.0	0.00	0.4	0.0	0.19	0.5	0.0	0.27
03/09/99	0.0	0.0	0.00	0.5	0.2	0.36	0.7	0.2	0.43
03/10/99	0.0	0.0	0.00	0.5	0.0	0.25	0.5	0.0	0.28
03/11/99	0.0	0.0	0.00	0.5	0.0	0.27	0.7	0.0	0.33
03/12/99	0.0	0.0	0.00	0.7	0.4	0.49	0.7	0.4	0.53
03/13/99	0.0	0.0	0.00	0.7	0.4	0.56	0.9	0.4	0.56
03/14/99	0.0	0.0	0.00	0.5	0.2	0.33	0.5	0.0	0.29
03/15/99	0.0	0.0	0.00	0.4	0.0	0.16	0.5	0.0	0.22
03/16/99	0.0	0.0	0.00	0.4	0.0	0.18	0.7	0.0	0.19
03/17/99	0.0	0.0	0.00	0.2	0.0	0.05	0.2	0.0	0.08
03/18/99	0.0	0.0	0.00	0.7	0.2	0.34	0.7	0.0	0.35
03/19/99	0.0	0.0	0.00	0.5	0.0	0.19	0.7	-0.1	0.25
03/20/99	0.2	0.0	0.01	0.7	0.4	0.52	1.0	0.4	0.58
03/21/99	0.2	0.0	0.03	0.9	0.4	0.57	1.0	0.4	0.61
03/22/99	0.0	0.0	0.00	0.5	0.0	0.25	0.9	0.4	0.56
03/23/99	0.0	0.0	0.00	0.9	0.4	0.55	0.9	0.4	0.56
03/24/99	0.0	0.0	0.00	1.2	0.4	0.65	0.9	0.4	0.60
03/25/99	0.0	0.0	0.00	1.2	0.2	0.63	0.9	0.2	0.58
03/26/99	0.2	0.0	0.04	1.2	0.2	0.59	1.2	0.2	0.58
03/27/99	0.4	0.0	0.09	1.2	0.0	0.52	1.2	0.0	0.51
03/28/99	0.2	0.0	0.06	0.9	0.0	0.40	1.0	0.0	0.42
03/29/99	0.4	0.0	0.09	0.9	0.0	0.37	0.9	0.0	0.41
03/30/99	0.4	0.0	0.10	0.9	0.2	0.48	0.7	0.2	0.43
03/31/99	0.5	0.0	0.17	1.0	0.0	0.54	1.2	0.2	0.54
04/01/99	0.5	0.0	0.18	1.0	0.0	0.49	0.9	0.0	0.45
04/02/99	0.5	0.0	0.28	1.2	0.5	0.79	1.0	0.4	0.68
04/03/99	1.0	0.0	0.29	1.5	0.2	0.72	1.4	0.2	0.65
04/04/99	0.7	0.0	0.27	1.2	0.2	0.70	1.0	0.2	0.59
04/05/99	1.0	0.0	0.29	1.4	0.0	0.70	1.5	0.0	0.61
04/06/99	0.9	0.0	0.43	1.5	0.5	0.92	1.4	0.4	0.76
04/07/99	0.9	0.2	0.43	1.4	0.7	0.99	1.2	0.5	0.76
04/08/99	0.7	0.0	0.32	1.4	0.5	0.86	1.2	0.4	0.72
04/09/99	0.9	0.0	0.29	1.5	0.0	0.78	1.4	0.0	0.66
04/10/99	1.0	0.0	0.31	1.5	0.0	0.74	1.5	0.0	0.65
04/11/99	0.4	0.0	0.21	0.7	0.4	0.56	0.7	0.4	0.52
04/12/99	0.9	0.0	0.35	1.4	0.4	0.77	1.2	0.4	0.66
04/13/99	0.7	0.0	0.30	1.4	0.2	0.75	1.5	0.2	0.65
04/14/99	1.2	0.0	0.44	1.7	0.2	0.92	1.5	0.2	0.75
04/15/99	1.7	0.0	0.61	2.2	0.4	1.16	2.1	0.2	0.99
04/16/99	1.7	0.0	0.56	2.4	0.4	1.27	2.2	0.5	1.06
04/17/99	1.0	0.0	0.27	1.9	0.2	0.96	1.5	0.4	0.91
04/18/99	0.4	0.0	0.07	1.2	0.2	0.62	1.2	0.4	0.76
04/19/99	0.4	0.0	0.07	1.9	0.4	0.85	1.4	0.4	0.72
04/20/99	0.0	0.0	0.00	0.9	0.0	0.47	0.9	0.4	0.57
04/21/99	0.0	0.0	0.00	1.7	0.4	0.88	1.2	0.2	0.58
04/22/99	0.2	0.0	0.04	2.1	0.5	1.03	1.7	0.2	0.78
04/23/99	0.2	0.0	0.03	1.7	0.5	0.93	1.2	0.4	0.65
04/24/99	0.2	0.0	0.03	1.2	0.0	0.58	0.9	0.2	0.47
04/25/99	0.2	0.0	0.05	1.0	0.0	0.49	0.9	0.2	0.40
04/26/99	0.7	0.0	0.30	1.4	0.2	0.79	0.9	0.0	0.45
04/27/99	1.4	0.0	0.52	2.4	0.4	1.17	2.4	0.0	0.95
04/28/99	1.7	0.2	0.90	2.4	0.5	1.32	2.4	0.2	1.18
04/29/99	2.4	0.5	1.34	2.7	0.5	1.48	2.9	0.4	1.42
04/30/99	2.2	1.0	1.67	2.4	1.0	1.63	2.6	0.9	1.67
05/01/99	2.7	0.9	1.71	2.4	0.9	1.54	2.4	0.7	1.48
05/02/99	2.4	1.2	1.75	2.7	1.0	1.59	2.9	1.0	1.63
05/03/99	1.9	0.5	1.33	1.9	0.5	1.20	1.9	0.5	1.17

Table 2. WATER TEMPERATURES ( C ) GLUSKIE, FORFAR, and KYNOCH CREEKS 1998 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
05/04/99	2.2	0.5	1.40	2.6	0.4	1.38	2.9	0.4	1.40
05/05/99	2.4	0.5	1.56	2.6	0.5	1.50	2.7	0.5	1.63
05/06/99	2.9	1.5	2.09	2.7	1.0	1.78	2.7	1.0	1.87
05/07/99	2.1	1.0	1.43	1.9	0.7	1.13	1.7	0.5	0.95
05/08/99	2.2	0.9	1.53	2.1	0.5	1.37	2.2	0.4	1.26
05/09/99	2.4	1.0	1.73	2.4	0.7	1.58	2.4	0.7	1.58
05/10/99	2.7	1.0	1.83	2.7	0.7	1.79	3.1	0.7	1.89
05/11/99	3.3	1.5	2.28	3.1	1.4	2.13	3.1	1.4	2.23
05/12/99	3.6	1.5	2.54	4.0	1.5	2.53	4.0	1.5	2.65
05/13/99	3.4	2.1	2.58	3.6	1.7	2.41	3.8	1.9	2.48
05/14/99	3.4	1.9	2.48	3.8	1.5	2.43	3.8	1.5	2.40
05/15/99	3.4	1.5	2.40	4.0	1.4	2.49	3.8	1.4	2.50
05/16/99	3.1	1.9	2.45	3.4	1.9	2.53	3.4	2.1	2.53
05/17/99	3.8	1.7	2.64	4.1	1.7	2.87	4.3	1.7	2.87
05/18/99	3.3	1.9	2.45	3.4	1.7	2.52	3.6	1.9	2.65
05/19/99	3.3	1.9	2.53	3.6	1.9	2.69	3.8	2.2	2.94
05/20/99	3.3	1.7	2.51	3.4	1.7	2.64	3.8	1.9	2.85
05/21/99	3.6	1.9	2.73	4.1	1.9	2.93	4.3	2.1	3.03
05/22/99	2.6	2.2	2.41	2.9	2.2	2.47	3.3	2.4	2.80
05/23/99	2.9	1.9	2.40	3.1	1.9	2.45	3.3	2.2	2.71
05/24/99	2.9	1.7	2.11	3.3	1.9	2.40	3.3	1.9	2.47
05/25/99	3.1	1.4	2.14	3.3	1.5	2.31	3.4	1.4	2.32
05/26/99	2.7	1.5	2.18	2.7	1.4	2.15	3.1	1.4	2.30
05/27/99	4.5	2.2	2.95	4.0	2.1	2.86	4.9	2.1	3.18
05/28/99	3.6	2.1	2.93	3.8	1.9	2.93	4.1	1.9	3.05
05/29/99	4.5	2.1	3.26	4.9	1.9	3.30	5.6	2.1	3.64
05/30/99	4.0	3.1	3.53	3.8	2.7	3.26	4.1	2.9	3.52
05/31/99	4.3	2.9	3.53	4.1	2.6	3.32	4.7	2.7	3.53
06/01/99	4.7	2.7	3.61	4.7	2.4	3.50	4.9	2.4	3.63
06/02/99	5.0	2.9	4.00	5.2	2.4	3.76	5.6	2.4	3.92
06/03/99	5.0	3.3	4.07	5.0	2.7	3.58	5.4	2.7	3.76
06/04/99	3.6	2.9	3.32	3.4	2.6	3.05	3.6	2.4	3.08
06/05/99	3.6	2.7	3.20	3.4	2.6	2.97	4.0	2.2	3.11
06/06/99	4.1	2.6	3.38	3.8	2.4	3.10	4.3	2.2	3.30
06/07/99	3.8	3.1	3.43	3.4	2.7	3.06	4.0	2.7	3.38
06/08/99	5.0	3.1	3.99	4.5	2.7	3.49	5.4	2.7	3.93
06/09/99	4.5	3.4	3.91	3.8	2.9	3.26	4.5	3.1	3.58
06/10/99	5.2	3.3	4.25	4.7	2.9	3.59	5.4	2.7	4.03
06/11/99	5.6	3.6	4.56	4.5	3.1	3.68	5.0	3.3	4.10
06/12/99	5.8	3.3	4.50	4.9	2.9	3.75	4.1	3.4	3.73
06/13/99	4.7	3.6	4.28	4.1	3.1	3.55	4.0	3.6	3.73
06/14/99	6.0	3.8	4.83	4.9	3.3	3.96	6.3	3.6	4.45
06/15/99	6.5	4.0	5.19	5.2	3.4	4.16	7.1	3.6	5.15
06/16/99	5.8	4.7	5.16	4.7	3.6	4.10	6.5	4.3	5.25
06/17/99	5.6	4.3	4.96	4.9	3.3	4.14	6.3	4.0	5.26
06/18/99	5.6	4.7	5.10	4.7	3.8	4.26	6.1	4.9	5.42
06/19/99	5.6	4.7	5.16	4.7	4.0	4.33	6.5	4.7	5.52
06/20/99	5.4	4.5	4.98	4.5	4.0	4.18	6.0	4.7	5.26
06/21/99	5.8	4.3	5.10	5.0	3.6	4.38	6.7	4.5	5.54
06/22/99	6.0	4.9	5.37	5.0	4.1	4.55	6.7	4.9	5.68
06/23/99	6.3	4.9	5.60	5.4	4.1	4.86	6.9	4.9	5.93
06/24/99	6.7	5.0	5.97	6.0	4.5	5.23	7.5	5.2	6.48
06/25/99	6.9	5.4	6.18	6.0	4.7	5.37	7.7	5.4	6.67
06/26/99	6.5	6.0	6.09	5.6	5.0	5.23	6.7	5.8	6.25
06/27/99	6.3	5.2	5.78	5.6	4.5	5.09	6.7	5.2	6.04
06/28/99	6.1	5.0	5.60	5.4	4.5	5.01	6.7	5.2	5.99
06/29/99	6.3	5.6	5.94	5.6	4.9	5.20	6.7	5.6	6.25
06/30/99	6.5	5.4	5.95	5.6	4.9	5.29	7.1	5.8	6.48
07/01/99	6.3	5.6	5.95	5.6	4.9	5.31	6.9	5.8	6.34
07/02/99	6.7	5.6	6.15	5.8	5.0	5.45	7.1	5.8	6.56
07/03/99	7.7	5.6	6.59	6.7	4.9	5.77	8.2	5.4	7.00



Table 2. WATER TEMPERATURES (°C) GLUSKIE, FORFAR, and KYNOCH CREEKS 1996 - 1999.

DATE	GLUSKIE CREEK			FORFAR CREEK			KYNOCH CREEK		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
07/04/99	7.7	6.3	7.12	6.7	5.8	6.28	8.0	6.7	7.51
07/05/99	7.8	6.5	7.23	7.1	6.0	6.54	8.8	6.5	7.78
07/06/99	8.2	6.5	7.42	7.5	6.0	6.77	9.4	6.5	7.97
07/07/99	8.2	6.9	7.58	7.5	6.3	7.05	9.2	7.3	8.30
07/08/99	8.8	7.1	7.95	8.2	6.9	7.49	10.4	7.8	9.03
07/09/99	9.2	7.1	8.14	8.4	6.9	7.70	10.2	7.5	9.04
07/10/99	9.8	8.2	8.94	9.0	7.8	8.34	11.1	8.8	9.94
07/11/99	10.0	8.8	9.17	9.0	8.2	8.58	10.9	9.4	10.03
07/12/99	9.4	8.0	8.68	8.6	7.5	7.99	9.8	8.0	8.88
07/13/99	9.0	7.5	8.05	7.8	7.1	7.40	8.4	7.5	8.03
07/14/99	8.2	7.3	7.71	7.5	6.9	7.32	8.2	7.3	7.76
07/15/99	7.8	6.9	7.55	7.3	6.5	7.02	8.2	6.7	7.60
07/16/99	8.2	6.3	7.23	8.2	6.0	7.10	9.4	6.0	7.74
07/17/99	9.0	7.3	8.09	9.4	7.3	8.25	10.9	7.5	9.08
07/18/99	10.4	8.0	9.08	10.2	8.0	9.04	11.9	8.4	10.19
07/19/99	11.3	9.2	10.08	10.4	9.2	9.83	12.1	9.8	10.91
07/20/99	10.7	9.8	10.28	10.4	9.6	10.02	11.5	10.4	10.90
07/21/99	11.3	9.4	10.43	10.4	9.2	9.86	11.7	9.4	10.64
07/22/99	10.9	9.6	10.08	10.2	9.4	9.78	10.9	9.6	10.42
07/23/99	10.0	8.6	9.23	9.4	8.6	9.02	10.0	8.2	9.28
07/24/99	9.4	8.0	8.78	9.4	8.2	8.90	10.0	8.0	9.03
07/25/99	9.2	8.2	8.74	9.0	8.4	8.69	9.8	7.8	8.85
07/26/99	10.4	8.6	9.20	9.8	8.4	9.01	10.4	8.0	9.34
07/27/99	9.6	9.0	9.32	9.8	9.4	9.57	10.2	9.2	9.81
07/28/99	10.2	9.2	9.45	9.8	9.2	9.33	9.8	9.4	9.68
07/29/99	9.8	8.4	9.08	9.0	8.2	8.55	9.6	7.8	8.77
07/30/99	9.6	8.4	8.94	9.0	7.8	8.52	10.4	7.8	8.95
07/31/99	9.4	8.2	8.89	9.0	7.8	8.58	10.2	7.8	9.07
08/01/99	10.0	8.2	9.19	9.8	8.0	8.98	11.1	8.0	9.50
08/02/99	10.4	8.6	9.33	10.0	8.4	9.29	11.3	8.2	9.80
08/03/99	10.9	9.0	9.77	10.9	9.2	10.00	11.9	8.8	10.29
08/04/99	11.7	9.4	10.38	11.7	10.0	10.89	13.0	9.8	11.36
08/05/99	12.6	10.7	11.36	12.4	10.9	11.61	13.9	10.9	12.31
08/06/99	12.6	11.1	11.84	12.4	11.1	11.90	13.9	11.3	12.63
08/07/99	12.8	11.5	12.04	12.8	11.7	12.27	13.9	12.1	13.02
08/08/99	13.0	11.3	12.19	12.6	11.7	12.25	13.7	11.7	12.63
08/09/99	12.1	10.7	11.42	11.9	10.9	11.41	12.1	10.9	11.64
08/10/99	11.7	10.2	10.93	11.1	10.2	10.71	11.7	9.6	10.79
08/11/99	11.1	10.0	10.38	10.7	10.0	10.25	10.9	9.8	10.20
08/12/99	10.7	9.4	10.05	10.4	9.6	10.02	10.4	9.4	9.88
08/13/99	10.7	9.2	10.00	10.2	9.2	9.74	10.4	8.8	9.65
08/14/99	10.4	9.4	10.04	10.2	9.2	9.78	10.2	8.8	9.61
08/15/99	10.9	9.8	10.38	10.4	9.6	10.04	10.7	9.4	10.02
08/16/99	10.9	9.6	10.38	10.7	9.8	10.13	11.1	9.4	10.31
08/17/99	11.3	10.0	10.73	10.9	9.6	10.29	11.1	9.8	10.54
08/18/99	12.1	10.2	11.05	11.5	10.0	10.75	12.6	10.2	11.24
08/19/99	12.4	10.4	11.16	11.5	10.2	10.87	12.6	10.4	11.38
08/20/99	11.7	9.8	10.75	11.3	9.8	10.61	12.1	10.0	11.08
08/21/99	11.5	10.2	10.83	11.1	10.0	10.62	11.9	10.7	11.10
08/22/99	10.9	9.8	10.23	10.2	9.4	9.83	10.4	9.8	10.18
08/23/99	10.9	10.2	10.50	10.0	9.4	9.71	10.9	9.6	10.14
08/24/99	10.2	9.8	10.00	9.6	9.2	9.42	10.0	9.0	9.64
08/25/99	10.0	8.6	9.47	9.2	8.4	8.76	9.4	8.2	8.82
08/26/99	8.4	6.9	7.78	8.4	7.3	7.90	8.2	7.1	7.60
08/27/99	8.8	7.1	7.75	8.0	7.5	7.73	7.8	7.1	7.51
08/28/99	10.0	8.6	9.17	9.0	7.8	8.42	9.4	7.7	8.49
08/29/99	9.2	8.0	8.61	8.6	7.7	8.18	8.8	7.5	8.13
08/30/99	8.4	7.3	7.92	7.8	6.9	7.43	8.0	6.1	7.13
08/31/99	8.6	7.5	7.94	7.8	7.1	7.47	8.0	6.7	7.39
09/01/99	8.4	6.0	7.38	7.7	6.3	7.16	7.8	6.0	6.89
09/02/99	8.2	6.1	7.33	7.8	6.3	7.14	7.7	5.8	6.75



[illegible]

Table 3. WATER TEMPERATURES (°C) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1996 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
04/30/96	1.4	1.0	1.18	2.9	1.4	2.11	3.3	0.9	2.48
05/01/96	1.2	1.0	1.08	2.4	1.4	1.98	2.8	0.9	2.05
05/02/96	1.2	1.0	1.15	2.6	1.7	2.18	3.6	2.4	2.73
05/03/96	1.4	1.0	1.18	3.6	1.5	2.45	4.3	1.9	2.67
05/04/96	1.5	1.0	1.30	3.8	1.5	2.63	3.2	1.5	2.59
05/05/96	1.5	1.2	1.34	3.1	2.2	2.66	3.0	2.3	2.70
05/06/96	1.4	0.9	1.12	2.9	1.4	2.08	3.3	2.6	2.66
05/07/96	1.2	0.7	0.92	3.4	0.9	2.14	3.6	2.7	3.04
05/08/96	1.0	0.7	0.85	2.9	1.2	2.15	3.3	2.8	2.91
05/09/96	1.0	0.7	0.88	3.3	1.4	2.30	3.6	2.6	2.94
05/10/96	1.2	0.7	0.98	4.7	1.4	2.91	3.9	2.7	3.19
05/11/96	1.4	0.9	1.11	5.4	2.1	3.66	4.1	2.8	3.40
05/12/96	1.5	1.2	1.35	5.0	3.4	4.17	3.6	3.0	3.28
05/13/96	1.5	1.4	1.46	4.9	3.6	4.32	3.7	3.2	3.39
05/14/96	1.7	1.4	1.49	5.4	3.6	4.38	4.4	3.3	3.72
05/15/96	1.7	1.4	1.48	5.0	3.4	4.25	4.7	3.5	3.95
05/16/96	1.5	1.2	1.40	5.0	2.9	3.95	4.9	3.6	4.13
05/17/96	1.7	1.2	1.44	5.8	2.7	4.26	5.6	3.4	4.34
05/18/96	1.9	1.7	1.75	5.4	4.1	4.73	4.6	3.8	4.15
05/19/96	2.2	1.5	1.88	5.2	4.0	4.69	4.5	3.8	4.10
05/20/96	2.2	1.0	1.63	5.6	3.4	4.58	4.9	3.6	4.32
05/21/96	2.7	1.2	1.82	6.3	3.6	4.92	5.3	4.0	4.59
05/22/96	3.3	1.5	2.07	6.0	4.1	5.03	5.9	4.3	4.95
05/23/96	3.4	1.4	2.21	7.1	4.3	5.75	6.4	4.6	5.28
05/24/96	2.9	1.0	1.93	6.9	4.5	5.80	6.4	4.6	5.30
05/25/96	2.6	1.2	1.76	6.7	5.2	5.99	5.6	4.4	5.08
05/26/96	2.4	0.9	1.58	6.7	4.1	5.41	5.3	4.7	4.99
05/27/96	2.7	0.9	1.81	6.5	4.1	5.43	5.9	4.4	5.15
05/28/96	3.4	0.9	2.20	6.9	4.5	5.74	5.8	4.5	5.28
05/29/96	3.6	1.2	2.42	7.5	4.9	6.23	6.2	4.8	5.53
05/30/96	4.0	1.4	2.65	7.8	5.8	6.69	6.1	5.2	5.55
05/31/96	4.3	1.4	2.66	8.4	5.6	6.93	6.4	4.8	5.38
06/01/96	3.4	1.7	2.54	8.0	6.5	7.30	7.1	5.5	6.35
06/02/96	3.4	1.9	2.65	9.2	6.3	7.75	7.6	6.5	6.90
06/03/96	3.8	1.5	2.73	8.4	6.3	7.43	7.7	6.2	6.80
06/04/96	4.1	2.1	3.05	7.8	6.7	7.39	7.8	6.0	6.96
06/05/96	4.5	2.1	3.28	8.6	6.1	7.43	7.6	6.7	7.11
06/06/96	4.9	2.7	3.71	8.0	6.5	7.41	7.9	6.5	7.08
06/07/96	4.3	2.6	3.50	7.8	6.5	7.23	8.2	7.4	7.87
06/08/96	4.0	2.2	3.28	7.5	6.0	6.88	7.9	7.3	7.53
06/09/96	4.5	2.6	3.59	7.7	6.1	7.00	7.2	6.2	6.71
06/10/96	4.3	3.1	3.70	7.5	6.5	7.01	6.6	5.6	6.02
06/11/96	4.5	2.7	3.67	7.5	6.1	6.81	7.0	5.8	6.51
06/12/96	5.0	2.6	3.91	7.7	6.0	6.91	7.5	6.0	6.59
06/13/96	4.7	2.9	3.94	7.5	6.3	6.98	6.9	5.9	6.48
06/14/96	4.7	2.4	3.70	7.3	5.4	6.50	7.5	6.5	6.98
06/15/96	4.1	3.3	3.78	7.1	6.3	6.75	7.5	7.0	7.22
06/16/96	5.2	2.7	4.02	7.5	5.6	6.59	7.8	6.8	7.33
06/17/96	5.0	3.1	4.10	7.1	5.6	6.47	8.1	7.3	7.63
06/18/96	6.0	4.0	4.99	8.4	6.3	7.32	8.3	7.5	7.90
06/19/96	6.7	4.3	5.58	8.8	6.9	7.80	8.6	7.7	8.14
06/20/96	6.9	4.5	5.78	8.4	6.9	7.74	8.6	8.0	8.25
06/21/96	6.7	5.2	5.98	8.6	7.3	7.93	9.5	7.6	8.31
06/22/96	6.5	5.0	5.85	8.0	7.1	7.58	9.3	7.7	8.45
06/23/96	7.5	4.9	6.17	8.4	6.9	7.69	9.6	7.9	8.76
06/24/96	7.3	5.0	6.33	9.0	7.3	8.13	9.9	8.0	9.14
06/25/96	7.1	5.2	6.32	9.2	7.5	8.44	10.4	8.3	9.29
06/26/96	7.3	5.6	6.61	9.4	7.8	8.58	11.1	9.2	9.94
06/27/96	7.5	5.8	6.68	9.4	8.0	8.75	11.3	9.8	10.43
06/28/96	7.1	5.8	6.44	9.0	8.0	8.58	10.6	9.6	10.03
06/29/96	6.9	5.4	6.25	8.4	7.7	8.11	9.6	9.4	9.56
06/30/96	8.4	6.0	7.08	9.6	7.7	8.55	11.1	9.2	10.28

Table 3. WATER TEMPERATURES (°C) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1996 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
07/01/96	7.3	5.6	6.57	8.8	7.5	8.28	11.2	10.6	10.91
07/02/96	7.8	5.0	6.48	9.6	6.7	8.14	11.2	10.5	10.70
07/03/96	7.5	6.7	7.08	9.4	8.6	8.95	11.3	10.2	10.79
07/04/96	7.8	6.0	6.87	9.0	8.0	8.57	11.5	10.6	11.11
07/05/96	6.9	6.1	6.51	8.4	7.6	8.07	11.2	9.8	10.43
07/06/96	8.4	5.8	6.99	10.2	7.5	8.73	10.8	9.8	10.17
07/07/96	9.0	6.5	7.93	11.1	8.0	9.51	11.5	10.2	10.75
07/08/96	9.8	8.0	8.72	11.7	10.0	10.84	11.1	9.9	10.84
07/09/96	9.0	8.0	8.42	11.3	10.2	10.77	11.6	10.6	11.16
07/10/96	9.0	7.1	7.97	11.1	9.2	10.18	11.2	10.5	10.83
07/11/96	9.6	7.3	8.32	11.7	8.8	10.23	11.3	10.3	10.85
07/12/96	10.2	8.0	8.91	12.4	9.8	10.93	11.9	10.9	11.30
07/13/96	10.9	8.4	9.46	13.0	10.0	11.38	12.8	11.2	11.82
07/14/96	10.9	8.8	9.69	13.3	10.2	11.70	12.8	11.8	12.20
07/15/96	10.4	9.0	9.48	12.4	10.4	11.50	12.8	12.1	12.39
07/16/96	9.2	7.8	8.56	11.7	9.2	10.60	13.3	12.0	12.62
07/17/96	8.4	7.7	7.89	10.7	9.2	9.67	12.8	12.4	12.59
07/18/96	7.8	7.1	7.52	9.8	9.0	9.31	12.8	12.1	12.38
07/19/96	6.9	6.1	6.40	9.0	8.2	8.54	12.2	11.5	11.95
07/20/96	7.5	6.1	6.84	9.8	8.2	8.90	12.0	11.2	11.59
07/21/96	7.8	6.7	7.32	10.4	9.0	9.70	12.4	11.5	11.96
07/22/96	8.6	6.5	7.59	11.7	9.2	10.32	12.8	11.8	12.32
07/23/96	9.4	6.9	8.20	12.4	9.8	10.94	13.9	12.3	13.03
07/24/96	10.0	7.7	8.92	13.3	10.4	11.74	15.0	13.1	13.80
07/25/96	10.4	8.4	9.42	13.7	11.1	12.31	14.7	12.7	13.54
07/26/96	10.2	8.6	9.61	13.0	11.5	12.33	16.1	13.1	14.32
07/27/96	10.9	8.8	9.91	13.9	11.5	12.75	15.1	12.8	14.05
07/28/96	10.9	9.4	10.22	13.7	11.9	12.93	15.7	13.1	14.15
07/29/96	11.3	9.6	10.44	13.9	11.9	13.06	19.0	13.9	15.65
07/30/96	10.4	8.8	9.51	13.0	11.3	11.95	16.4	13.8	14.47
07/31/96	9.2	8.2	8.77	11.7	10.2	11.10	13.7	13.0	13.46
08/01/96	9.4	8.2	8.72	11.9	10.0	10.99	14.4	13.4	13.91
08/02/96	9.2	7.7	8.43	12.1	9.4	10.81	15.5	13.9	14.60
08/03/96	9.0	8.2	8.58	11.1	9.8	10.50	14.4	13.9	14.06
08/04/96	9.2	8.0	8.50	11.7	9.6	10.64	14.7	13.4	13.90
08/05/96	9.6	7.5	8.42	12.4	9.4	10.87	15.2	13.0	14.07
08/06/96	9.2	8.2	8.77	11.9	10.2	11.21	14.3	13.5	13.88
08/07/96	9.0	8.0	8.51	11.1	9.4	10.38	14.6	13.6	14.00
08/08/96	9.4	8.0	8.71	12.4	9.6	10.98	14.9	13.4	13.91
08/09/96	9.2	8.4	8.72	11.7	10.2	11.03	14.9	13.6	14.26
08/10/96	9.4	8.8	9.00	12.6	10.7	11.59	15.8	14.3	14.93
08/11/96	9.0	8.8	8.95	12.1	10.7	11.26	14.9	14.1	14.55
08/12/96	8.8	8.6	8.68	11.7	10.2	11.16	15.4	14.1	14.67
08/13/96	8.6	8.4	8.53	11.5	9.8	10.76	15.4	14.3	14.67
08/14/96	8.6	8.2	8.38	11.5	9.2	10.50	15.4	14.3	14.82
08/15/96	8.6	8.2	8.41	11.1	9.6	10.48	15.2	14.5	14.82
08/16/96	8.4	8.0	8.18	10.9	9.6	10.25	15.1	14.3	14.54
08/17/96	8.2	8.0	8.06	10.4	9.2	9.92	14.3	13.5	13.95
08/18/96	8.0	7.8	7.96	10.2	9.0	9.73	14.3	13.0	13.85
08/19/96	8.2	7.8	8.02	10.4	9.2	9.84	14.6	13.4	13.92
08/20/96	8.2	8.0	8.07	10.4	9.0	9.81	14.3	12.9	13.68
08/21/96	8.0	7.8	7.93	10.2	9.0	9.57	14.0	13.4	13.69
08/22/96	8.6	7.8	8.14	11.1	9.2	9.95	13.5	13.1	13.33
08/23/96	8.8	8.4	8.57	11.1	9.8	10.54	14.1	12.8	13.53
08/24/96	8.4	8.0	8.18	10.4	8.6	9.66	14.8	13.4	14.03
08/25/96	8.4	7.8	8.05	10.7	8.8	9.73	15.1	14.0	14.45
08/26/96	8.6	8.0	8.24	10.9	8.8	9.98	15.5	14.1	14.80
08/27/96	8.6	8.2	8.41	10.7	9.0	9.85	15.1	14.3	14.55
08/28/96	9.0	8.4	8.74	10.9	9.8	10.39	15.0	14.3	14.65
08/29/96	10.2	8.8	9.58	11.9	10.2	11.00	14.7	14.1	14.45
08/30/96	10.7	9.6	10.26	11.9	11.1	11.45	14.8	13.6	14.29
08/31/96	9.6	8.8	9.23	11.1	9.8	10.39	14.3	12.1	13.25

Table 3. WATER TEMPERATURES (°C) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1996 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
08/01/96	9.2	8.4	8.73	10.2	9.4	9.82	12.8	11.9	12.47
08/02/96	8.6	7.1	7.86	9.8	8.0	8.99	12.9	11.8	12.54
08/03/96	8.6	7.8	8.25	9.8	8.8	9.32	11.8	11.4	11.53
08/04/96	7.7	6.3	7.13	9.2	7.3	8.18	12.2	11.3	11.75
08/05/96	7.5	6.1	6.89	8.4	7.1	7.71	12.0	11.6	11.86
08/06/96	7.5	6.5	7.03	8.2	7.3	7.85	12.3	11.7	11.97
08/07/96	7.3	6.5	6.99	8.2	7.5	7.89	11.9	11.5	11.63
08/08/96	7.8	6.7	7.21	8.8	7.5	8.09	12.2	11.3	11.75
08/09/96	8.2	7.1	7.63	9.0	8.0	8.53	12.6	11.9	12.16
08/10/96	7.5	6.1	6.90	8.6	6.9	7.88	12.4	11.5	11.93
08/11/96	8.0	6.7	7.34	9.2	7.3	8.27	12.3	11.1	11.57
08/12/96	8.2	7.3	7.77	9.2	8.2	8.78	12.7	11.4	12.00
08/13/96	8.0	7.3	7.61	9.0	8.2	8.56	12.4	12.0	12.12
08/14/96	8.0	7.5	7.73	9.0	8.4	8.69	12.1	11.2	11.85
08/15/96	7.5	6.5	7.05	8.6	7.7	8.23	12.0	11.2	11.54
08/16/96	7.1	6.1	6.49	8.4	7.1	7.74	12.4	11.4	11.87
08/17/96	6.1	5.0	5.70	7.7	6.1	6.83	11.9	11.3	11.54
08/18/96	7.3	6.1	6.64	8.0	7.1	7.45	12.1	11.2	11.55
08/19/96	6.5	5.4	5.85	7.8	6.3	6.97	11.5	9.7	11.01
08/20/96	5.6	4.5	5.28	6.9	6.1	6.49	11.3	10.7	11.05
08/21/96	4.5	3.8	4.20	6.1	4.7	5.15	11.1	10.5	10.72
08/22/96	3.8	3.1	3.48	5.0	3.6	4.33	10.6	9.7	10.18
08/23/96	3.8	2.7	3.18	4.3	3.1	3.79	10.7	9.7	10.28
08/24/96	4.3	3.1	3.65	4.9	3.4	4.19	10.9	10.0	10.38
08/25/96	4.9	4.0	4.44	5.8	4.5	4.95	10.8	10.0	10.30
08/26/96	6.4	4.8	5.46	7.3	5.4	6.10	11.2	10.0	10.46
08/27/96	7.4	6.2	6.82	7.7	7.1	7.43	11.1	9.5	10.51
08/28/96	6.8	5.9	6.60	7.7	7.1	7.38	10.9	8.9	10.12
08/29/96	5.9	4.0	4.73	7.1	5.0	5.73	10.3	9.4	9.90
08/30/96	3.9	3.0	3.37	4.9	3.6	4.09	10.1	9.5	9.81
10/01/96	2.8	2.0	2.40	3.8	2.7	3.23	10.0	9.4	9.67
10/02/96	3.2	2.5	2.83	4.0	3.3	3.53	9.6	9.3	9.45
10/03/96	4.4	3.2	3.79	5.2	4.0	4.55	9.5	9.2	9.37
10/04/96	4.2	3.3	3.84	5.2	4.5	4.92	9.4	9.0	9.21
10/05/96	3.9	2.8	3.35	4.9	3.8	4.37	9.5	8.8	9.12
10/06/96	4.4	3.3	3.80	5.0	4.1	4.52	9.0	8.4	8.72
10/07/96	4.9	4.0	4.49	6.3	4.9	5.46	9.4	8.2	8.76
10/08/96	5.5	4.8	5.14	6.3	5.6	6.01	9.4	8.9	9.11
10/09/96	5.9	5.3	5.59	6.7	6.0	6.28	9.0	8.3	8.69
10/10/96	6.6	5.9	6.15	7.1	6.7	6.79	8.9	8.3	8.53
10/11/96	5.7	4.0	4.76	6.5	4.9	5.50	8.9	8.1	8.47
10/12/96	4.0	3.0	3.65	4.7	3.8	4.12	8.5	7.9	8.22
10/13/96	4.8	4.0	4.26	5.4	4.3	4.83	8.4	7.9	8.03
10/14/96	3.9	3.0	3.35	5.0	4.0	4.35	7.9	7.2	7.75
10/15/96	3.2	2.1	2.61	4.1	3.1	3.59	7.4	6.0	6.91
10/16/96	2.0	1.3	1.51	2.9	1.5	2.05	7.5	7.0	7.19
10/17/96	1.4	0.9	1.18	1.9	1.4	1.63	7.1	6.8	6.98
10/18/96	0.9	0.6	0.78	1.7	0.9	1.15	6.8	6.4	6.71
10/19/96	0.6	0.4	0.50	0.9	0.5	0.74	6.8	6.5	6.59
10/20/96	0.9	0.4	0.64	1.5	0.7	1.02	6.6	6.4	6.48
10/21/96	1.1	0.4	0.82	2.4	1.4	1.82	6.5	6.1	6.35
10/22/96	1.6	0.9	1.24	2.7	1.9	2.25	6.4	5.2	6.18
10/23/96	1.3	0.4	0.92	2.2	1.2	1.70	6.1	5.7	5.95
10/24/96	1.3	0.8	0.98	1.5	1.2	1.33	5.9	3.7	5.50
10/25/96	0.9	0.4	0.60	1.7	1.2	1.38	5.8	5.3	5.61
10/26/96	0.9	0.4	0.59	1.2	0.5	0.82	5.8	5.3	5.61
10/27/96	1.4	0.9	1.19	1.7	1.2	1.46	5.7	5.8	5.65
10/28/96	1.4	0.3	1.17	1.7	1.2	1.58	5.6	4.9	5.42
10/29/96	0.4	0.3	0.35	1.0	0.0	0.31	5.2	2.8	4.59
10/30/96	0.3	0.1	0.28	0.2	0.0	0.03	4.9	4.6	4.79
10/31/96	0.3	0.3	0.30	0.2	0.0	0.06	4.8	4.5	4.70

Table 3. WATER TEMPERATURES ( C ) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1996 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
11/01/96	0.4	0.3	0.32	0.4	0.0	0.18	4.6	4.6	4.70
11/02/96	0.6	0.3	0.39	0.5	0.2	0.34	4.9	4.6	4.71
11/03/96	0.6	0.3	0.47	0.4	0.2	0.32	4.6	2.6	4.13
11/04/96	0.8	0.4	0.61	0.9	0.4	0.56	4.1	1.9	3.20
11/05/96	0.9	0.4	0.63	0.9	0.4	0.59	4.4	4.0	4.17
11/06/96	0.6	0.3	0.38	0.7	0.4	0.48	3.9	2.2	3.45
11/07/96	0.3	0.3	0.30	0.2	0.0	0.03	3.8	3.3	3.55
11/08/96	0.3	0.3	0.30	0.0	0.0	0.00	3.8	3.3	3.63
11/09/96	0.3	0.3	0.30	0.0	0.0	0.00	3.7	3.0	3.43
11/10/96	0.3	0.1	0.24	0.0	0.0	0.00	3.5	3.1	3.42
11/11/96	0.3	0.3	0.30	0.0	0.0	0.00	3.5	3.3	3.41
11/12/96	0.3	0.3	0.30	0.0	0.0	0.00	3.4	3.1	3.31
11/13/96	0.6	0.3	0.38	0.0	0.0	0.00	3.3	1.5	2.75
11/14/96	0.6	0.1	0.43	0.0	0.0	0.00	3.0	1.6	2.40
11/15/96	0.1	0.1	0.10	0.0	0.0	0.00	2.6	2.5	2.70
11/16/96	0.3	0.1	0.13	0.0	0.0	0.00	2.8	2.3	2.53
11/17/96	0.1	0.1	0.10	0.0	0.0	0.00	2.6	1.9	2.44
11/18/96	0.1	0.1	0.10	0.0	0.0	0.00	2.5	2.0	2.27
11/19/96	0.1	0.1	0.10	0.0	0.0	0.00	2.2	1.6	1.98
11/20/96	0.1	0.1	0.10	0.0	0.0	0.00	1.9	1.4	1.67
11/21/96	0.1	0.1	0.10	0.0	0.0	0.00	1.5	1.1	1.35
11/22/96	0.1	0.1	0.10	0.0	0.0	0.00	1.1	1.0	1.02
11/23/96	0.1	0.1	0.10	0.0	0.0	0.00	1.1	0.9	0.95
11/24/96	0.1	0.1	0.10	0.0	0.0	0.00	1.1	1.0	1.04
11/25/96	0.3	0.1	0.29	0.0	0.0	0.00	1.2	1.0	1.08
11/26/96	0.3	0.3	0.30	0.0	0.0	0.00	1.2	0.9	1.10
11/27/96	0.4	0.3	0.32	0.0	0.0	0.00	1.2	1.0	1.14
11/28/96	0.4	0.3	0.38	0.0	0.0	0.00	1.3	1.1	1.20
11/29/96	0.4	0.3	0.36	0.0	0.0	0.00	1.3	0.9	1.09
11/30/96	0.4	0.3	0.40	0.0	0.0	0.00	1.3	1.1	1.21
12/01/96	0.4	0.4	0.40	0.0	0.0	0.00	1.3	0.8	1.10
12/02/96	0.4	0.3	0.35	0.0	0.0	0.00	1.5	1.2	1.31
12/03/96	0.4	0.4	0.40	0.0	0.0	0.00	1.5	1.2	1.32
12/04/96	0.4	0.4	0.40	0.0	0.0	0.00	1.5	0.7	1.18
12/05/96	0.4	0.4	0.40	0.0	0.0	0.00	1.6	1.3	1.48
12/06/96	0.4	0.4	0.40	0.0	0.0	0.00	1.6	1.4	1.46
12/07/96	0.4	0.4	0.40	0.0	0.0	0.00	1.7	1.4	1.53
12/08/96	0.4	0.4	0.40	0.0	0.0	0.00	1.7	1.5	1.59
12/09/96	0.4	0.4	0.40	0.0	0.0	0.00	1.7	1.3	1.48
12/10/96	0.4	0.4	0.40	0.0	0.0	0.00	1.8	1.4	1.68
12/11/96	0.4	0.4	0.40	0.0	0.0	0.00	1.8	1.3	1.61
12/12/96	0.4	0.4	0.40	0.0	0.0	0.00	1.8	1.5	1.70
12/13/96	0.4	0.4	0.40	0.0	0.0	0.00	1.9	1.5	1.75
12/14/96	0.4	0.4	0.40	0.0	0.0	0.00	1.9	1.3	1.61
12/15/96	0.4	0.3	0.39	0.0	0.0	0.00	1.8	0.7	1.42
12/16/96	0.4	0.3	0.30	0.0	0.0	0.00	1.8	0.5	1.49
12/17/96	0.3	0.3	0.30	0.0	0.0	0.00	1.7	1.2	1.45
12/18/96	0.4	0.3	0.35	0.0	0.0	0.00	1.8	1.2	1.54
12/19/96	0.4	0.3	0.39	0.0	0.0	0.00	1.8	1.2	1.55
12/20/96	0.4	0.3	0.36	0.0	0.0	0.00	1.8	0.9	1.38
12/21/96	0.3	0.1	0.29	0.0	0.0	0.00	1.5	0.7	1.18
12/22/96	0.1	0.1	0.10	0.0	0.0	0.00	1.5	0.6	1.21
12/23/96	0.1	0.1	0.10	0.0	0.0	0.00	1.8	1.3	1.60
12/24/96	0.1	0.1	0.10	0.0	0.0	0.00	1.8	1.5	1.66
12/25/96	0.1	0.1	0.10	0.0	0.0	0.00	1.8	1.4	1.64
12/26/96	0.1	0.1	0.10	0.0	0.0	0.00	1.8	1.5	1.66
12/27/96	0.1	0.1	0.10	0.0	0.0	0.00	1.6	1.3	1.44
12/28/96	0.1	0.1	0.10	0.0	0.0	0.00	1.4	1.2	1.34
12/29/96	0.1	0.1	0.10	0.0	0.0	0.00	1.3	1.1	1.27
12/30/96	0.1	0.1	0.10	0.0	0.0	0.00	1.3	1.0	1.20
12/31/96	0.1	0.1	0.10	0.0	0.0	0.00	1.2	0.9	1.09

Table 3. WATER TEMPERATURES (°C) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1996 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
01/01/97	0.1	0.1	0.10	0.0	0.0	0.00	1.3	0.9	1.03
01/02/97	0.1	0.1	0.10	0.0	0.0	0.00	1.2	1.0	1.14
01/03/97	0.1	0.1	0.10	0.0	0.0	0.00	1.3	0.9	1.09
01/04/97	0.1	0.1	0.10	0.0	0.0	0.00	1.2	1.0	1.06
01/05/97	0.1	0.1	0.10	0.0	0.0	0.00	1.2	0.9	1.06
01/06/97	0.1	0.1	0.10	0.0	0.0	0.00	1.2	1.0	1.13
01/07/97	0.3	0.1	0.11	0.0	0.0	0.00	1.3	1.0	1.13
01/08/97	0.3	0.1	0.26	0.0	0.0	0.00	1.2	1.0	1.13
01/09/97	0.3	0.1	0.26	0.0	0.0	0.00	1.1	0.9	0.95
01/10/97	0.3	0.3	0.30	0.0	0.0	0.00	1.1	0.9	1.00
01/11/97	0.3	0.3	0.30	0.0	0.0	0.00	1.1	0.9	1.03
01/12/97	0.3	0.3	0.30	0.0	0.0	0.00	1.1	0.7	0.91
01/13/97	0.3	0.3	0.30	0.0	0.0	0.00	1.1	0.8	0.91
01/14/97	0.3	0.3	0.30	0.0	0.0	0.00	1.0	0.8	0.90
01/15/97	0.3	0.1	0.14	0.0	0.0	0.00	1.0	0.9	0.94
01/16/97	0.1	0.1	0.10	0.0	0.0	0.00	1.0	0.8	0.90
01/17/97	0.3	0.1	0.13	0.0	0.0	0.00	1.0	0.8	0.91
01/18/97	0.3	0.3	0.30	0.0	0.0	0.00	1.1	0.8	0.94
01/19/97	0.3	0.3	0.30	0.0	0.0	0.00	1.0	0.7	0.80
01/20/97	0.3	0.3	0.30	0.0	0.0	0.00	1.0	0.7	0.78
01/21/97	0.3	0.3	0.30	0.0	0.0	0.00	0.8	0.5	0.70
01/22/97	0.3	0.3	0.30	0.0	0.0	0.00	0.9	0.6	0.80
01/23/97	0.3	0.1	0.24	0.0	0.0	0.00	0.8	0.5	0.63
01/24/97	0.1	0.1	0.10	0.0	0.0	0.00	0.8	0.6	0.70
01/25/97	0.1	0.1	0.10	0.0	0.0	0.00	0.8	0.6	0.68
01/26/97	0.1	0.1	0.10	0.0	0.0	0.00	0.8	0.7	0.78
01/27/97	0.1	0.1	0.10	0.0	0.0	0.00	0.8	0.6	0.74
01/28/97	0.1	0.1	0.10	0.0	0.0	0.00	0.8	0.6	0.70
01/29/97	0.1	0.1	0.10	0.0	0.0	0.00	0.8	0.6	0.68
01/30/97	0.1	0.1	0.10	0.0	0.0	0.00	0.8	0.6	0.70
01/31/97	0.1	0.1	0.10	0.0	0.0	0.00	0.9	0.6	0.76
02/01/97	0.3	0.1	0.11	0.0	0.0	0.00	0.8	0.5	0.67
02/02/97	0.3	0.1	0.21	0.0	0.0	0.00	0.8	0.6	0.73
02/03/97	0.3	0.1	0.13	0.0	0.0	0.00	0.8	0.5	0.64
02/04/97	0.3	0.1	0.29	0.0	0.0	0.00	0.9	0.6	0.71
02/05/97	0.3	0.1	0.26	0.0	0.0	0.00	0.9	0.6	0.75
02/06/97	0.3	0.1	0.26	0.0	0.0	0.00	0.9	0.6	0.79
02/07/97	0.3	0.3	0.30	0.0	0.0	0.00	0.9	0.6	0.76
02/08/97	0.3	0.1	0.23	0.0	0.0	0.00	0.8	0.6	0.68
02/09/97	0.1	0.1	0.10	0.0	0.0	0.00	0.8	0.6	0.64
02/10/97	0.1	0.1	0.10	0.0	0.0	0.00	0.8	0.6	0.68
02/11/97	0.3	0.1	0.14	0.0	0.0	0.00	0.8	0.6	0.71
02/12/97	0.3	0.1	0.22	0.0	0.0	0.00	0.8	0.6	0.66
02/13/97	0.3	0.3	0.30	0.0	0.0	0.00	0.8	0.6	0.68
02/14/97	0.3	0.3	0.30	0.0	0.0	0.00	0.8	0.6	0.65
02/15/97	0.3	0.3	0.30	0.0	0.0	0.00	0.9	0.5	0.71
02/16/97	0.3	0.1	0.11	0.0	0.0	0.00	1.0	0.7	0.86
02/17/97	0.3	0.1	0.23	0.0	0.0	0.00	0.9	0.6	0.71
02/18/97	0.3	0.3	0.30	0.0	0.0	0.00	0.9	0.6	0.70
02/19/97	0.3	0.3	0.30	0.0	0.0	0.00	0.9	0.6	0.71
02/20/97	0.4	0.3	0.33	0.0	0.0	0.00	1.0	0.6	0.77
02/21/97	0.4	0.3	0.35	0.0	0.0	0.00	1.0	0.6	0.77
02/22/97	0.4	0.3	0.39	0.0	0.0	0.00	0.9	0.6	0.73
02/23/97	0.4	0.3	0.34	0.0	0.0	0.00	1.0	0.6	0.71
02/24/97	0.4	0.3	0.33	0.0	0.0	0.00	1.0	0.6	0.74
02/25/97	0.4	0.3	0.33	0.0	0.0	0.00	1.2	0.6	0.79
02/26/97	0.4	0.3	0.33	0.0	0.0	0.00	1.1	0.5	0.77
02/27/97	0.4	0.3	0.31	0.0	0.0	0.00	1.1	0.6	0.82
02/28/97	0.4	0.3	0.31	0.0	0.0	0.00	1.1	0.6	0.83



Table 3. WATER TEMPERATURES ( C ) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1996 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
03/01/97	0.3	0.1	0.23	0.0	0.0	0.00	0.7	0.2	0.48
03/02/97	0.3	0.1	0.14	0.0	0.0	0.00	0.8	0.4	0.68
03/03/97	0.3	0.1	0.15	0.0	0.0	0.00	1.0	0.6	0.75
03/04/97	0.1	0.1	0.10	0.0	0.0	0.00	0.9	0.6	0.75
03/05/97	0.3	0.1	0.12	0.0	0.0	0.00	0.9	0.6	0.78
03/06/97	0.3	0.1	0.23	0.0	0.0	0.00	0.9	0.7	0.78
03/07/97	0.3	0.3	0.30	0.0	0.0	0.00	1.1	0.7	0.83
03/08/97	0.3	0.1	0.28	0.0	0.0	0.00	1.1	0.6	0.85
03/09/97	0.3	0.1	0.29	0.0	0.0	0.00	0.9	0.6	0.73
03/10/97	0.3	0.1	0.29	0.0	0.0	0.00	1.0	0.6	0.79
03/11/97	0.3	0.1	0.18	0.0	0.0	0.00	1.0	0.6	0.78
03/12/97	0.1	0.1	0.10	0.0	0.0	0.00	1.0	0.6	0.81
03/13/97	0.1	0.1	0.10	0.0	0.0	0.00	1.0	0.6	0.78
03/14/97	0.1	0.1	0.10	0.0	0.0	0.00	1.0	0.6	0.75
03/15/97	0.1	0.1	0.10	0.0	0.0	0.00	0.9	0.6	0.73
03/16/97	0.1	0.1	0.10	0.0	0.0	0.00	0.9	0.6	0.74
03/17/97	0.1	0.1	0.10	0.0	0.0	0.00	0.9	0.6	0.74
03/18/97	0.3	0.1	0.14	0.0	0.0	0.00	1.1	0.6	0.79
03/19/97	0.3	0.1	0.18	0.0	0.0	0.00	1.3	0.6	0.88
03/20/97	0.3	0.1	0.27	0.0	0.0	0.00	1.2	0.7	0.87
03/21/97	0.4	0.3	0.31	0.0	0.0	0.00	1.0	0.7	0.82
03/22/97	0.4	0.3	0.33	0.0	0.0	0.00	1.0	0.7	0.88
03/23/97	0.4	0.3	0.33	0.0	0.0	0.00	1.4	0.6	0.94
03/24/97	0.4	0.3	0.33	0.0	0.0	0.00	1.0	0.6	0.77
03/25/97	0.4	0.1	0.32	0.0	0.0	0.00	1.7	0.6	1.03
03/26/97	0.4	0.3	0.33	0.0	0.0	0.00	1.6	0.7	1.03
03/27/97	0.4	0.3	0.33	0.0	0.0	0.00	1.4	0.7	0.97
03/28/97	0.6	0.3	0.39	0.0	0.0	0.00	2.2	0.6	1.19
03/29/97	0.6	0.3	0.37	0.0	0.0	0.00	2.1	0.5	1.18
03/30/97	0.4	0.3	0.36	0.0	0.0	0.00	1.6	0.6	1.11
03/31/97	0.6	0.3	0.40	0.0	0.0	0.00	1.5	0.0	0.72
04/01/97	0.6	0.3	0.39	0.0	0.0	0.00	1.9	0.3	1.02
04/02/97	0.6	0.1	0.38	0.0	0.0	0.00	2.3	0.0	1.04
04/03/97	0.4	0.1	0.28	0.0	0.0	0.00	2.6	-0.2	1.01
04/04/97	0.6	0.3	0.37	0.0	0.0	0.00	2.7	0.6	1.45
04/05/97	0.6	0.3	0.38	0.0	0.0	0.00	2.9	1.0	1.63
04/06/97	0.6	0.3	0.39	0.0	0.0	0.00	2.8	1.1	1.69
04/07/97	0.6	0.1	0.38	0.0	0.0	0.00	3.0	1.0	1.79
04/08/97	0.6	0.1	0.38	0.0	0.0	0.00	2.7	1.1	1.68
04/09/97	0.6	0.1	0.35	0.0	0.0	0.00	3.3	1.2	1.91
04/10/97	0.6	0.1	0.30	0.0	0.0	0.00	3.2	1.1	1.91
04/11/97	0.6	0.1	0.39	0.2	0.0	0.03	3.5	1.2	2.04
04/12/97	0.6	0.3	0.40	0.2	0.0	0.07	2.8	1.5	1.98
04/13/97	0.4	0.1	0.28	0.0	0.0	0.00	2.7	1.5	1.88
04/14/97	0.6	0.3	0.38	0.2	0.0	0.03	3.3	1.5	2.01
04/15/97	0.4	0.3	0.34	0.2	0.0	0.05	2.4	1.4	1.85
04/16/97	0.4	0.1	0.23	0.4	0.0	0.09	2.8	1.7	2.08
04/17/97	0.3	0.1	0.14	0.4	0.0	0.13	3.5	0.9	2.19
04/18/97	0.3	0.1	0.18	0.4	0.0	0.13	3.7	1.5	2.20
04/19/97	0.4	0.1	0.23	1.2	0.0	0.35	4.0	1.7	2.49
04/20/97	0.3	0.1	0.13	0.9	0.0	0.26	4.2	1.9	2.40
04/21/97	0.3	0.1	0.14	1.2	0.0	0.35	3.3	1.7	2.40
04/22/97	0.4	0.1	0.18	1.5	0.0	0.45	4.0	1.9	2.69
04/23/97	0.4	0.1	0.18	1.5	0.0	0.47	4.5	2.0	2.78
04/24/97	0.6	0.1	0.21	1.7	0.0	0.54	3.8	2.0	2.79
04/25/97	0.6	0.1	0.22	1.7	0.0	0.56	3.7	2.2	2.81
04/26/97	0.4	0.1	0.15	0.5	0.2	0.33	2.8	2.1	2.58
04/27/97	0.4	0.1	0.34	1.4	0.0	0.63	3.3	1.1	2.56
04/28/97	0.6	0.1	0.40	1.9	0.4	1.05	3.3	2.2	2.75
04/29/97	0.9	0.4	0.66	2.2	0.9	1.46	3.3	2.4	2.77
04/30/97	1.4	0.4	0.77	2.7	0.7	1.68	4.8	2.4	2.98



Table 3. WATER TEMPERATURES (°C) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1996 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
05/01/97	1.4	0.4	0.78	3.8	0.9	2.14	4.0	2.1	3.04
05/02/97	1.8	0.4	0.83	4.1	1.2	2.54	3.9	1.3	2.97
05/03/97	1.4	0.6	0.88	3.4	1.9	2.57	3.6	2.6	3.09
05/04/97	1.3	0.6	0.88	3.3	1.4	2.41	3.6	2.8	3.16
05/05/97	1.3	0.6	0.92	3.6	2.1	2.70	3.6	1.1	2.52
05/06/97	1.6	0.6	0.95	3.6	1.9	2.73	3.1	1.3	2.21
05/07/97	1.6	0.6	0.98	4.1	1.9	3.03	3.5	1.9	2.77
05/08/97	1.6	0.6	1.00	4.3	2.1	3.31	4.1	3.0	3.43
05/09/97	1.8	0.6	1.21	4.7	2.7	3.66	5.6	3.3	4.11
05/10/97	2.5	0.8	1.43	5.4	2.6	3.96	4.8	3.3	3.94
05/11/97	2.6	0.8	1.55	6.0	2.9	4.50	5.5	3.3	4.07
05/12/97	2.8	1.1	1.67	6.7	3.6	5.14	6.1	3.8	4.75
05/13/97	2.8	1.1	1.65	7.5	3.6	5.46	7.0	3.7	5.18
05/14/97	2.6	0.9	1.60	6.9	4.3	5.60	6.2	4.2	5.13
05/15/97	2.6	1.1	1.70	6.7	4.3	5.57	6.0	4.6	5.10
05/16/97	2.0	1.3	1.55	6.5	4.7	5.36	5.3	4.3	4.74
05/17/97	3.3	0.9	1.96	6.9	3.8	5.16	5.5	4.0	4.73
05/18/97	3.2	1.1	2.10	6.3	4.5	5.47	5.2	4.5	4.79
05/19/97	2.5	1.4	1.99	5.6	4.7	5.18	4.6	4.3	4.54
05/20/97	2.8	1.4	2.09	6.7	4.3	5.43	4.8	4.4	4.59
05/21/97	2.5	1.3	1.99	6.0	4.5	5.40	4.8	4.4	4.59
05/22/97	3.9	1.1	2.52	7.1	4.1	5.58	5.2	4.4	4.72
05/23/97	4.6	1.4	3.10	8.0	4.9	6.52	6.7	4.5	5.36
05/24/97	4.8	2.3	3.50	8.8	6.1	7.50	6.9	4.8	5.77
05/25/97	4.4	2.1	3.44	8.6	6.1	7.53	6.2	4.8	5.62
05/26/97	4.9	2.3	3.72	8.6	6.3	7.68	5.0	4.5	4.77
05/27/97	4.9	3.0	3.90	8.8	6.9	7.91	5.2	4.6	4.86
05/28/97	4.8	2.8	3.93	8.8	7.1	8.06	6.2	4.8	5.30
05/29/97	4.4	3.2	3.83	8.4	7.3	7.86	6.5	4.9	5.71
05/30/97	5.5	2.6	3.98	8.8	6.7	7.86	6.9	5.5	6.23
05/31/97	5.1	3.3	4.20	8.2	6.9	7.69	7.0	6.3	6.54
06/01/97	5.1	3.2	4.30	8.0	6.9	7.54	7.4	6.4	6.85
06/02/97	5.9	3.7	4.66	8.4	6.7	7.60	7.2	5.2	5.88
06/03/97	6.2	3.5	4.97	9.0	6.9	8.03	6.6	5.2	6.00
06/04/97	5.7	4.8	5.08	8.8	7.3	7.93	6.2	5.1	5.51
06/05/97	5.9	4.0	5.01	8.2	6.7	7.41	7.3	6.4	6.64
06/06/97	5.7	4.0	4.83	7.8	6.7	7.32	7.0	5.2	5.91
06/07/97	5.5	4.0	4.85	8.0	6.7	7.40	5.9	5.1	5.30
06/08/97	5.5	4.0	4.85	8.0	6.7	7.44	6.4	5.4	5.90
06/09/97	6.0	3.5	4.83	8.4	6.3	7.41	6.5	5.9	6.26
06/10/97	7.4	3.9	5.69	9.6	6.7	8.23	7.8	6.4	7.18
06/11/97	7.9	5.5	6.87	10.2	8.8	9.53	10.0	7.5	8.62
06/12/97	8.1	6.4	7.33	10.4	8.8	9.66	10.0	9.0	9.58
06/13/97	8.1	6.4	7.38	10.7	9.4	10.11	9.5	9.1	9.35
06/14/97	7.6	5.9	6.96	10.0	8.8	9.54	10.1	9.3	9.74
06/15/97	8.5	6.8	7.61	10.4	9.6	9.94	10.6	9.6	10.20
06/16/97	8.5	6.2	7.47	10.4	8.6	9.62	10.7	9.8	10.25
06/17/97	8.9	7.2	8.13	10.9	9.6	10.28	11.3	9.7	10.13
06/18/97	8.1	6.6	7.41	10.4	9.4	9.93	10.9	9.3	10.32
06/19/97	8.3	6.2	7.29	10.2	8.8	9.57	10.6	9.7	10.21
06/20/97	7.4	6.4	6.90	9.8	9.2	9.53	10.3	9.7	9.97
06/21/97	7.7	6.6	7.10	10.0	8.8	9.37	10.3	10.0	10.14
06/22/97	8.9	6.8	7.66	11.1	8.8	9.94	10.6	8.9	9.96
06/23/97	9.9	7.2	8.59	11.9	9.8	10.91	12.4	9.7	10.96
06/24/97	9.5	7.9	8.80	12.6	10.4	11.44	12.4	10.6	11.58
06/25/97	10.1	7.9	9.13	12.8	10.7	11.69	12.4	11.3	11.79
06/26/97	9.5	8.3	8.83	11.9	10.4	11.17	12.5	11.6	12.12
06/27/97	8.3	7.6	7.97	10.4	9.6	9.89	12.0	11.3	11.71
06/28/97	9.3	7.6	8.38	11.5	9.4	10.22	13.2	11.0	11.42
06/29/97	9.3	7.9	8.68	11.3	9.4	10.44	12.4	10.9	11.63
06/30/97	9.7	8.5	8.99	12.1	10.2	11.01	12.5	10.8	11.66

Table 3. WATER TEMPERATURES (°C) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1996 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
07/01/97	9.5	8.3	9.03	11.9	10.2	11.17	13.2	11.5	12.50
07/02/97	9.7	8.1	8.84	11.7	10.2	11.05	13.0	12.5	12.74
07/03/97	9.9	7.7	8.75	12.8	9.4	10.99	14.3	12.8	13.23
07/04/97	10.8	8.1	9.33	13.3	10.0	11.60	14.3	13.3	13.63
07/05/97	12.0	9.3	10.44	14.4	11.5	12.83	15.2	12.4	13.74
07/06/97	10.8	9.3	10.05	13.0	11.1	12.12	15.6	13.5	14.54
07/07/97	9.5	7.9	8.68	10.9	9.4	10.22	13.8	12.8	13.10
07/08/97	9.9	8.9	9.34	11.3	9.8	10.42	13.9	12.4	13.22
07/09/97	9.3	8.1	8.83	11.5	9.0	10.23	14.1	13.5	13.83
07/10/97	9.7	8.1	8.95	11.5	9.0	10.32	14.6	13.5	13.99
07/11/97	10.8	8.7	9.66	12.8	9.4	11.07	15.1	14.0	14.50
07/12/97	11.8	9.3	10.43	13.5	10.2	11.83	15.1	13.9	14.45
07/13/97	11.8	10.3	10.90	13.0	11.3	12.15	15.0	14.3	14.58
07/14/97	11.8	10.1	10.76	13.0	10.9	11.93	15.3	14.4	14.85
07/15/97	11.0	9.9	10.44	12.4	10.7	11.62	15.1	14.6	14.80
07/16/97	11.0	9.3	10.04	13.3	10.2	11.75	15.1	14.0	14.57
07/17/97	11.0	8.7	9.73	12.8	9.8	11.36	16.1	14.3	15.05
07/18/97	10.8	8.9	9.77	12.4	10.0	11.20	15.4	15.0	15.20
07/19/97	11.0	9.5	10.20	12.8	10.7	11.77	15.8	14.9	15.23
07/20/97	10.8	9.9	10.32	12.4	11.1	11.69	15.8	15.1	15.41
07/21/97	11.2	9.7	10.42	12.4	10.7	11.60	15.6	15.0	15.28
07/22/97	10.8	9.5	10.12	12.4	10.9	11.64	15.5	14.9	15.18
07/23/97	10.6	9.1	9.67	11.9	10.4	11.25	15.2	14.7	15.00
07/24/97	10.1	8.7	9.32	11.7	10.0	10.98	15.1	14.8	14.83
07/25/97	10.6	8.9	9.62	12.8	10.2	11.48	15.4	14.4	14.93
07/26/97	11.0	9.1	9.90	12.8	10.4	11.68	16.2	14.7	15.29
07/27/97	11.4	9.7	10.49	12.8	11.3	12.16	15.8	14.9	15.18
07/28/97	11.6	10.1	10.79	13.5	11.3	12.44	16.4	15.1	15.72
07/29/97	11.8	10.6	11.13	13.7	11.9	12.83	16.8	15.6	16.23
07/30/97	12.3	10.8	11.26	13.7	12.1	12.98	16.8	16.0	16.35
07/31/97	11.0	9.3	10.15	12.6	10.7	11.65	16.8	15.8	16.29
08/01/97	11.0	9.1	10.04	12.1	10.4	11.40	16.7	15.5	16.19
08/02/97	10.6	8.9	9.66	12.1	10.2	11.25	16.8	16.1	16.35
08/03/97	11.2	9.5	10.33	12.8	10.9	11.81	17.0	15.8	16.37
08/04/97	12.0	10.3	11.03	13.9	11.7	12.70	17.5	16.2	16.70
08/05/97	12.5	10.6	11.36	14.4	11.9	13.22	17.7	16.8	17.10
08/06/97	12.3	10.3	11.24	13.9	11.9	13.11	18.7	17.1	17.48
08/07/97	11.2	10.3	10.68	13.5	11.9	12.23	17.2	15.6	16.33
08/08/97	11.2	9.7	10.42	12.8	11.1	11.92	16.6	15.4	16.10
08/09/97	11.4	9.7	10.54	13.9	11.3	12.63	17.9	16.3	16.95
08/10/97	12.0	9.9	10.63	14.2	11.7	13.06	18.6	17.0	17.74
08/11/97	12.5	10.6	11.49	14.4	12.4	13.41	18.8	17.6	18.09
08/12/97	12.3	11.0	11.65	14.4	12.8	13.68	19.4	17.8	18.28
08/13/97	13.4	11.6	12.32	14.9	13.3	14.13	19.4	17.3	17.95
08/14/97	12.5	11.6	12.04	14.9	13.7	14.14	18.2	16.2	17.00
08/15/97	12.0	11.0	11.51	13.9	12.6	13.33	17.1	16.6	16.91
08/16/97	11.2	9.7	10.53	13.0	11.3	12.29	18.5	16.2	17.21
08/17/97	11.0	9.3	10.26	12.8	11.1	12.06	18.7	17.0	17.67
08/18/97	11.4	10.1	10.68	12.8	11.9	12.37	18.5	17.6	18.02
08/19/97	11.2	9.9	10.53	13.0	11.5	12.29	18.3	17.4	17.81
08/20/97	11.2	9.7	10.46	13.0	11.7	12.41	18.3	17.4	17.86
08/21/97	11.2	10.3	10.76	12.8	12.4	12.67	18.1	17.7	17.84
08/22/97	11.6	10.8	11.09	13.5	12.6	13.00	18.2	17.2	17.76
08/23/97	11.2	10.3	10.74	13.0	12.4	12.56	18.0	17.4	17.65
08/24/97	11.0	10.1	10.59	12.4	11.7	11.98	17.4	16.7	17.19
08/25/97	11.0	9.9	10.53	12.8	11.5	12.21	17.5	16.6	16.97
08/26/97	11.4	10.3	10.89	13.3	12.4	12.90	17.0	15.4	16.16
08/27/97	11.2	10.6	10.94	13.3	12.1	12.80	16.4	15.4	15.94
08/28/97	10.8	9.7	10.23	12.1	11.1	11.57	16.3	15.4	15.70
08/29/97	10.8	9.5	10.05	11.7	10.9	11.34	15.3	14.3	14.63
08/30/97	10.1	9.1	9.71	11.7	10.2	11.03	15.4	14.2	14.81
08/31/97	9.9	8.7	9.33	11.5	10.4	11.06	15.0	14.3	14.55

Table 3. WATER TEMPERATURES (°C) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1996 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
09/01/97	9.7	8.1	8.97	11.3	10.0	10.77	14.9	13.9	14.30
09/02/97	10.3	9.1	9.49	12.1	10.9	11.45	15.8	14.4	15.08
09/03/97	9.5	8.3	8.98	11.7	10.7	11.32	16.8	15.1	15.78
09/04/97	9.5	8.3	8.90	11.3	10.4	10.86	15.9	15.3	15.55
09/05/97	8.5	7.9	8.22	10.2	9.2	9.66	15.4	14.3	14.85
09/06/97	8.3	7.4	7.87	9.8	8.8	9.31	15.1	13.9	14.25
09/07/97	7.9	6.8	7.48	9.4	8.0	8.80	15.1	13.9	14.41
09/08/97	8.9	7.6	8.26	10.2	8.4	9.32	15.4	13.7	14.51
09/09/97	9.5	8.3	8.86	10.9	9.2	10.00	16.2	14.0	15.00
09/10/97	9.3	8.5	8.99	10.7	9.8	10.06	15.6	14.7	15.12
09/11/97	8.9	7.7	8.22	10.2	9.0	9.56	15.0	14.3	14.61
09/12/97	7.9	7.0	7.54	9.4	8.4	8.99	15.1	14.1	14.42
09/13/97	8.3	7.2	7.71	9.8	8.8	9.36	14.4	13.9	14.12
09/14/97	7.6	6.8	7.27	9.6	8.4	8.90	13.9	13.1	13.45
09/15/97	6.8	6.2	6.53	8.4	7.8	8.09	13.0	12.7	12.88
09/16/97	7.2	6.2	6.68	8.6	7.8	8.15	13.0	12.1	12.59
09/17/97	6.8	5.9	6.41	8.4	7.7	7.89	12.4	11.9	12.07
09/18/97	5.9	4.6	5.34	7.5	6.1	6.82	12.8	11.5	12.05
09/19/97	6.6	5.3	5.96	7.5	6.5	7.10	12.0	11.3	11.61
09/20/97	6.8	5.7	6.30	7.7	6.7	7.33	12.0	11.2	11.58
09/21/97	7.6	6.4	6.93	8.6	7.5	8.02	12.6	11.5	12.10
09/22/97	7.9	6.4	7.20	8.8	7.7	8.30	12.6	11.9	12.18
09/23/97	8.7	7.4	8.00	9.4	8.6	9.00	12.2	11.5	11.82
09/24/97	8.1	7.4	7.75	9.6	8.6	9.09	12.6	11.5	11.95
09/25/97	8.1	6.8	7.50	9.2	8.4	8.98	11.8	11.3	11.55
09/26/97	7.9	7.4	7.70	9.2	8.6	9.03	11.9	11.5	11.68
09/27/97	7.6	6.8	7.18	9.0	8.2	8.61	12.1	11.2	11.65
09/28/97	7.7	6.4	7.16	9.0	8.4	8.68	11.8	11.1	11.54
09/29/97	6.2	5.1	5.67	8.2	7.1	7.55	11.2	10.0	10.80
09/30/97	5.9	5.3	5.63	7.3	6.9	7.03	10.7	10.2	10.48
10/01/97	5.7	4.4	5.13	6.9	6.0	6.39	10.2	9.9	10.06
10/02/97	4.8	4.0	4.39	6.1	5.8	5.88	9.9	9.2	9.68
10/03/97	4.0	3.3	3.70	5.8	4.7	5.16	9.9	8.8	9.39
10/04/97	3.9	3.2	3.45	4.7	4.0	4.30	9.5	9.0	9.33
10/05/97	3.5	2.5	2.98	4.3	3.4	3.87	9.6	8.8	9.15
10/06/97	3.3	2.3	2.91	4.1	3.4	3.81	9.3	8.8	9.01
10/07/97	3.0	2.5	2.70	3.8	3.3	3.49	8.9	8.4	8.74
10/08/97	2.3	0.9	1.81	3.3	2.4	2.92	8.3	7.4	7.84
10/09/97	0.8	0.1	0.59	2.2	1.5	1.77	7.4	7.1	7.26
10/10/97	1.4	0.8	1.07	1.9	1.5	1.78	7.3	6.9	7.20
10/11/97	1.4	0.8	1.10	2.1	1.5	1.78	6.9	6.5	6.65
10/12/97	1.1	-0.1	0.67	1.7	0.5	1.41	6.8	6.4	6.66
10/13/97	1.3	0.1	0.72	1.2	0.5	0.88	6.8	6.4	6.56
10/14/97	2.3	1.3	1.80	2.1	0.9	1.54	6.6	6.4	6.48
10/15/97	3.2	2.1	2.73	3.1	2.1	2.63	6.5	6.3	6.43
10/16/97	3.0	2.6	2.82	3.6	2.7	3.17	6.5	6.0	6.30
10/17/97	2.5	2.0	2.29	3.1	2.2	2.68	6.5	6.1	6.25
10/18/97	2.6	2.0	2.26	2.9	2.2	2.63	6.4	6.0	6.20
10/19/97	2.0	1.3	1.62	2.6	1.7	2.12	6.4	6.0	6.10
10/20/97	2.5	1.8	2.08	2.7	1.9	2.32	6.1	5.9	6.02
10/21/97	3.0	2.5	2.75	3.4	2.7	3.00	6.0	6.0	6.00
10/22/97	3.2	2.6	2.94	4.0	3.3	3.59	6.0	5.5	5.82
10/23/97	2.6	2.0	2.20	3.4	2.2	2.70	5.8	5.3	5.60
10/24/97	2.0	1.6	1.83	2.1	1.7	1.94	5.7	5.5	5.54
10/25/97	2.6	1.4	1.97	2.9	1.9	2.33	5.6	5.5	5.54
10/26/97	2.8	2.3	2.56	3.1	2.4	2.80	5.9	5.2	5.51
10/27/97	2.3	2.0	2.12	2.7	2.2	2.55	5.5	4.9	5.24
10/28/97	2.5	2.0	2.27	2.7	2.2	2.47	5.4	5.2	5.31
10/29/97	2.6	2.1	2.46	3.3	2.7	2.98	5.4	5.3	5.31
10/30/97	3.0	2.5	2.72	3.6	3.1	3.34	5.5	5.2	5.29
10/31/97	3.0	2.5	2.69	3.4	2.9	3.25	5.3	5.1	5.22

Table 3. WATER TEMPERATURES (°C) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1996 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
11/01/97	2.6	2.0	2.22	3.1	2.2	2.63	5.3	5.0	5.13
11/02/97	2.5	1.8	2.26	2.9	2.6	2.71	5.2	5.0	5.07
11/03/97	2.3	1.8	2.04	2.9	2.4	2.71	5.1	4.9	5.02
11/04/97	2.5	2.1	2.18	3.1	2.7	2.82	5.0	4.9	4.99
11/05/97	2.6	2.0	2.40	3.1	2.6	3.00	5.0	4.8	4.94
11/06/97	2.0	0.4	0.97	2.4	1.0	1.64	4.8	3.8	4.54
11/07/97	0.4	0.1	0.30	1.0	0.2	0.57	4.6	4.3	4.41
11/08/97	0.3	0.1	0.23	0.4	0.0	0.17	4.4	4.3	4.35
11/09/97	0.3	0.1	0.24	0.4	0.0	0.15	4.4	4.3	4.37
11/10/97	0.3	0.3	0.30	0.2	0.0	0.05	4.4	4.1	4.27
11/11/97	0.4	0.3	0.33	0.2	0.0	0.08	4.2	3.8	4.07
11/12/97	0.3	0.3	0.30	0.2	0.0	0.03	3.9	3.6	3.78
11/13/97	0.4	0.3	0.33	0.2	0.0	0.05	3.8	3.7	3.71
11/14/97	0.3	0.3	0.30	0.2	0.0	0.03	3.8	3.6	3.71
11/15/97	0.3	0.3	0.30	0.0	0.0	0.00	3.6	3.5	3.60
11/16/97	0.3	0.3	0.30	0.0	0.0	0.00	3.6	3.5	3.58
11/17/97	0.4	0.3	0.34	0.0	0.0	0.00	3.6	3.5	3.52
11/18/97	0.4	0.3	0.40	0.0	0.0	0.00	3.5	3.3	3.47
11/19/97	0.6	0.4	0.51	0.2	0.0	0.11	3.5	3.3	3.45
11/20/97	0.6	0.6	0.74	0.4	0.2	0.30	3.5	3.1	3.35
11/21/97	0.6	0.6	0.73	0.4	0.2	0.26	3.3	3.2	3.22
11/22/97	0.6	0.6	0.71	0.2	0.2	0.20	3.3	3.1	3.23
11/23/97	0.6	0.4	0.63	0.2	0.0	0.15	3.3	3.2	3.21
11/24/97	0.9	0.6	0.82	0.4	0.2	0.26	3.3	2.8	3.13
11/25/97	0.6	0.6	0.63	0.4	0.0	0.18	3.0	2.8	2.92
11/26/97	0.6	0.4	0.55	0.2	0.0	0.04	3.0	2.8	2.92
11/27/97	0.9	0.6	0.81	0.2	0.0	0.10	3.0	2.9	2.94
11/28/97	0.9	0.6	0.88	0.4	0.2	0.27	2.9	2.8	2.88
11/29/97	0.6	0.6	0.68	0.2	0.2	0.20	2.9	2.8	2.80
11/30/97	0.9	0.6	0.77	0.2	0.0	0.16	2.8	2.8	2.80
12/01/97	0.6	0.6	0.69	0.2	0.0	0.02	2.9	2.7	2.80
12/02/97	0.9	0.6	0.77	0.2	0.0	0.02	2.8	2.7	2.80
12/03/97	0.6	0.4	0.57	0.0	0.0	0.00	2.8	2.5	2.65
12/04/97	0.4	0.4	0.40	0.0	0.0	0.00	2.5	2.3	2.45
12/05/97	0.6	0.3	0.47	0.0	0.0	0.00	2.4	2.3	2.39
12/06/97	0.6	0.4	0.45	0.0	0.0	0.00	2.4	2.2	2.31
12/07/97	0.4	0.3	0.32	0.0	0.0	0.00	2.2	2.0	2.11
12/08/97	0.3	0.3	0.30	0.0	0.0	0.00	2.0	1.8	1.89
12/09/97	0.3	0.3	0.30	0.0	0.0	0.00	2.0	1.6	1.78
12/10/97	0.3	0.3	0.30	0.0	0.0	0.00	2.0	1.8	1.85
12/11/97	0.6	0.3	0.44	0.0	0.0	0.00	2.1	1.9	1.99
12/12/97	0.6	0.6	0.61	0.0	0.0	0.00	2.1	2.0	2.05
12/13/97	0.6	0.6	0.74	0.0	0.0	0.00	2.1	2.0	2.10
12/14/97	0.6	0.6	0.78	0.0	0.0	0.00	2.1	1.8	2.03
12/15/97	0.6	0.3	0.43	0.0	0.0	0.00	1.8	1.5	1.70
12/16/97	0.6	0.4	0.53	0.0	0.0	0.00	2.1	1.8	1.94
12/17/97	0.6	0.3	0.54	0.0	0.0	0.00	2.0	0.6	1.36
12/18/97	0.3	0.1	0.28	0.0	0.0	0.00	1.6	1.3	1.43
12/19/97	0.3	0.3	0.30	0.0	0.0	0.00	1.7	1.4	1.60
12/20/97	0.4	0.3	0.34	0.0	0.0	0.00	1.7	1.1	1.48
12/21/97	0.3	0.3	0.30	0.0	0.0	0.00	1.6	1.1	1.50
12/22/97	0.4	0.3	0.33	0.0	0.0	0.00	1.6	1.4	1.55
12/23/97	0.4	0.4	0.40	0.0	0.0	0.00	1.7	1.1	1.52
12/24/97	0.6	0.4	0.43	0.0	0.0	0.00	1.8	1.5	1.65
12/25/97	0.6	0.4	0.55	0.0	0.0	0.00	1.7	1.6	1.61
12/26/97	0.6	0.6	0.60	0.0	0.0	0.00	1.8	1.6	1.67
12/27/97	0.4	0.4	0.40	0.0	0.0	0.00	1.8	1.6	1.69
12/28/97	0.6	0.4	0.54	0.0	0.0	0.00	1.8	1.6	1.73
12/29/97	0.6	0.4	0.46	0.0	0.0	0.00	1.7	1.5	1.64
12/30/97	0.6	0.4	0.50	0.0	0.0	0.00	1.9	1.7	1.77
12/31/97	0.6	0.3	0.53	0.0	0.0	0.00	1.8	1.4	1.63

Table 3. WATER TEMPERATURES (°C) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1996 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
01/01/98	0.3	0.1	0.16	0.0	0.0	0.00	1.6	1.4	1.50
01/02/98	0.3	0.1	0.16	0.0	0.0	0.00	1.6	1.4	1.46
01/03/98	0.1	0.1	0.10	0.0	0.0	0.00	1.5	1.4	1.50
01/04/98	0.1	0.1	0.10	0.0	0.0	0.00	1.5	1.4	1.47
01/05/98	0.1	0.1	0.10	0.0	0.0	0.00	1.6	1.4	1.46
01/06/98	0.1	0.1	0.10	0.0	0.0	0.00	1.7	1.5	1.61
01/07/98	0.1	0.1	0.10	0.0	0.0	0.00	1.7	1.5	1.60
01/08/98	0.1	0.1	0.10	0.0	0.0	0.00	1.7	1.5	1.65
01/09/98	0.1	0.1	0.10	0.0	0.0	0.00	1.8	1.6	1.69
01/10/98	0.1	0.1	0.10	0.0	0.0	0.00	1.8	1.6	1.69
01/11/98	0.1	0.1	0.10	0.0	0.0	0.00	1.7	1.5	1.58
01/12/98	0.1	0.1	0.10	0.0	0.0	0.00	1.7	1.5	1.58
01/13/98	0.1	0.1	0.10	0.0	0.0	0.00	1.7	1.3	1.46
01/14/98	0.1	0.1	0.10	0.0	0.0	0.00	1.3	1.1	1.23
01/15/98	0.1	0.1	0.10	0.0	0.0	0.00	1.2	0.9	1.10
01/16/98	0.1	0.1	0.10	0.0	0.0	0.00	1.0	0.9	0.92
01/17/98	0.3	0.1	0.24	0.0	0.0	0.00	1.2	1.0	1.12
01/18/98	0.3	0.1	0.29	0.0	0.0	0.00	1.2	1.0	1.10
01/19/98	0.3	0.1	0.28	0.0	0.0	0.00	1.1	0.9	1.04
01/20/98	0.3	0.1	0.29	0.0	0.0	0.00	1.0	0.9	0.92
01/21/98	0.3	0.1	0.29	0.0	0.0	0.00	1.0	0.9	0.96
01/22/98	0.3	0.3	0.30	0.0	0.0	0.00	1.1	0.9	0.99
01/23/98	0.3	0.3	0.30	0.0	0.0	0.00	1.1	0.8	0.96
01/24/98	0.3	0.1	0.28	0.0	0.0	0.00	1.1	0.8	0.95
01/25/98	0.3	0.3	0.30	0.0	0.0	0.00	1.0	0.8	0.94
01/26/98	0.3	0.3	0.30	0.0	0.0	0.00	1.0	0.9	0.94
01/27/98	0.3	0.3	0.30	0.0	0.0	0.00	1.1	0.8	0.93
01/28/98	0.3	0.3	0.30	0.0	0.0	0.00	1.0	0.9	0.94
01/29/98	0.3	0.3	0.30	0.0	0.0	0.00	1.1	0.7	0.93
01/30/98	0.3	0.3	0.30	0.0	0.0	0.00	1.2	0.8	0.98
01/31/98	0.3	0.3	0.30	0.0	0.0	0.00	1.1	0.8	0.98
02/01/98	0.3	0.3	0.30	0.0	0.0	0.00	1.0	0.8	0.88
02/02/98	0.3	0.3	0.30	0.0	0.0	0.00	1.1	0.8	0.91
02/03/98	0.3	0.3	0.30	0.0	0.0	0.00	1.0	0.8	0.91
02/04/98	0.3	0.3	0.30	0.0	0.0	0.00	1.0	0.8	0.94
02/05/98	0.3	0.3	0.30	0.0	0.0	0.00	1.0	0.9	0.94
02/06/98	0.3	0.3	0.30	0.0	0.0	0.00	1.0	0.9	0.98
02/07/98	0.3	0.3	0.30	0.0	0.0	0.00	1.0	0.9	0.92
02/08/98	0.3	0.3	0.30	0.0	0.0	0.00	1.0	0.9	0.93
02/09/98	0.3	0.3	0.30	0.0	0.0	0.00	1.0	0.8	0.90
02/10/98	0.3	0.3	0.30	0.0	0.0	0.00	0.9	0.8	0.89
02/11/98	0.3	0.3	0.30	0.0	0.0	0.00	1.2	0.8	0.94
02/12/98	0.3	0.3	0.30	0.0	0.0	0.00	0.9	0.7	0.83
02/13/98	0.3	0.3	0.30	0.0	0.0	0.00	1.2	0.8	0.95
02/14/98	0.3	0.3	0.30	0.0	0.0	0.00	1.1	0.7	0.90
02/15/98	0.4	0.3	0.31	0.0	0.0	0.00	1.2	0.9	0.95
02/16/98	0.3	0.3	0.30	0.0	0.0	0.00	1.1	0.8	0.93
02/17/98	0.3	0.3	0.30	0.0	0.0	0.00	1.2	0.8	0.95
02/18/98	0.3	0.3	0.30	0.0	0.0	0.00	1.1	0.8	0.93
02/19/98	0.4	0.3	0.32	0.0	0.0	0.00	1.4	0.8	1.03
02/20/98	0.3	0.3	0.30	0.0	0.0	0.00	1.0	0.8	0.89
02/21/98	0.3	0.3	0.30	0.0	0.0	0.00	1.2	0.9	0.98
02/22/98	0.3	0.3	0.30	0.0	0.0	0.00	1.2	0.8	0.95
02/23/98	0.3	0.1	0.29	0.0	0.0	0.00	1.2	0.8	0.95
02/24/98	0.3	0.1	0.22	0.0	0.0	0.00	1.2	0.8	0.94
02/25/98	0.3	0.3	0.30	0.0	0.0	0.00	1.1	0.7	0.91
02/26/98	0.3	0.1	0.18	0.0	0.0	0.00	1.2	0.7	0.93
02/27/98	0.1	0.1	0.10	0.0	0.0	0.00	1.1	0.8	0.92
02/28/98	0.1	0.1	0.10	0.0	0.0	0.00	1.0	0.7	0.89

Table 3. WATER TEMPERATURES ( C ) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1996 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
03/01/98	0.3	0.1	0.22	0.0	0.0	0.00	1.1	0.9	0.95
03/02/98	0.3	0.3	0.30	0.0	0.0	0.00	0.9	0.8	0.90
03/03/98	0.3	0.3	0.30	0.0	0.0	0.00	1.2	0.9	0.98
03/04/98	0.3	0.3	0.30	0.0	0.0	0.00	1.0	0.8	0.92
03/05/98	0.3	0.1	0.27	0.0	0.0	0.00	1.3	0.8	0.99
03/06/98	0.1	0.1	0.10	0.0	0.0	0.00	1.2	0.8	0.96
03/07/98	0.1	0.1	0.10	0.0	0.0	0.00	1.2	0.7	0.90
03/08/98	0.1	0.1	0.10	0.0	0.0	0.00	1.1	0.7	0.91
03/09/98	0.1	0.1	0.10	0.0	0.0	0.00	1.1	0.7	0.88
03/10/98	0.1	0.1	0.10	0.0	0.0	0.00	1.0	0.8	0.86
03/11/98	0.3	0.1	0.22	0.0	0.0	0.00	1.1	0.9	1.00
03/12/98	0.3	0.1	0.23	0.0	0.0	0.00	1.2	1.0	1.04
03/13/98	0.1	0.1	0.10	0.0	0.0	0.00	1.2	0.9	1.02
03/14/98	0.3	0.1	0.15	0.0	0.0	0.00	1.3	0.9	1.08
03/15/98	0.3	0.1	0.17	0.0	0.0	0.00	1.5	0.9	1.13
03/16/98	0.3	0.1	0.20	0.0	0.0	0.00	1.7	0.9	1.15
03/17/98	0.3	0.1	0.21	0.0	0.0	0.00	1.7	0.8	1.21
03/18/98	0.4	0.3	0.32	0.0	0.0	0.00	1.8	1.1	1.31
03/19/98	0.4	0.3	0.32	0.0	0.0	0.00	1.8	1.1	1.35
03/20/98	0.4	0.3	0.35	0.0	0.0	0.00	1.8	1.2	1.38
03/21/98	0.4	0.3	0.32	0.2	0.0	0.02	2.0	1.1	1.45
03/22/98	0.4	0.1	0.32	0.0	0.0	0.00	1.9	1.1	1.44
03/23/98	0.6	0.3	0.42	0.2	0.0	0.05	1.9	1.4	1.55
03/24/98	0.6	0.3	0.38	0.2	0.0	0.05	2.2	1.3	1.63
03/25/98	0.6	0.3	0.40	0.4	0.0	0.13	2.1	1.4	1.65
03/26/98	0.6	0.3	0.34	0.4	0.0	0.13	2.2	1.0	1.67
03/27/98	0.4	0.1	0.25	0.0	0.0	0.00	2.2	1.4	1.70
03/28/98	0.4	0.1	0.23	0.2	0.0	0.04	2.5	1.1	1.77
03/29/98	0.4	0.3	0.36	0.4	0.0	0.18	2.1	1.5	1.84
03/30/98	0.6	0.3	0.43	0.5	0.0	0.28	2.3	1.7	1.94
03/31/98	0.6	0.3	0.34	0.4	0.0	0.18	2.7	1.5	2.02
04/01/98	0.6	0.1	0.32	0.4	0.0	0.20	2.7	1.7	2.11
04/02/98	0.6	0.3	0.36	0.5	0.0	0.24	2.5	1.8	2.10
04/03/98	0.6	0.1	0.35	0.7	0.0	0.28	2.9	1.7	2.22
04/04/98	0.6	0.1	0.31	0.7	0.0	0.27	2.9	1.7	2.30
04/05/98	0.8	0.1	0.43	1.2	0.0	0.55	2.8	1.9	2.33
04/06/98	0.6	0.3	0.42	0.9	0.2	0.55	2.9	2.1	2.44
04/07/98	0.6	0.3	0.41	0.7	0.0	0.27	2.9	2.1	2.37
04/08/98	0.6	0.3	0.39	0.7	0.0	0.29	3.3	2.0	2.39
04/09/98	0.6	0.1	0.35	1.0	0.0	0.43	3.0	1.8	2.40
04/10/98	0.8	0.1	0.35	1.2	0.0	0.54	3.6	2.0	2.59
04/11/98	0.6	0.1	0.35	1.5	0.0	0.65	3.3	2.1	2.63
04/12/98	0.6	0.1	0.35	1.4	0.0	0.67	3.1	1.9	2.56
04/13/98	1.1	0.3	0.51	2.4	0.2	1.16	3.7	1.8	2.71
04/14/98	0.9	0.3	0.50	2.2	0.0	1.15	3.8	2.2	2.85
04/15/98	0.8	0.3	0.48	2.1	0.0	1.08	3.6	2.3	2.87
04/16/98	0.9	0.3	0.54	2.9	0.5	1.51	4.1	2.1	2.96
04/17/98	0.8	0.3	0.47	2.2	0.0	1.07	3.3	2.4	2.86
04/18/98	0.7	0.2	0.40	1.9	0.5	0.96	3.2	2.8	2.92
04/19/98	0.5	0.2	0.26	1.5	0.0	0.65	4.1	2.5	3.16
04/20/98	0.5	0.2	0.33	2.1	0.2	1.06	3.3	2.5	2.93
04/21/98	1.2	0.4	0.72	2.9	0.9	1.75	4.2	2.7	3.20
04/22/98	1.2	0.5	0.80	3.6	1.2	2.27	3.9	2.7	3.20
04/23/98	0.9	0.7	0.75	3.1	1.7	2.40	4.0	2.8	3.17
04/24/98	0.9	0.5	0.73	3.3	1.7	2.41	3.9	2.2	2.86
04/25/98	1.0	0.5	0.79	3.3	1.4	2.35	3.0	2.1	2.63
04/26/98	1.2	0.7	0.95	3.8	2.4	3.06	3.3	2.7	2.99
04/27/98	1.2	0.7	0.84	4.0	2.6	3.35	3.3	2.5	2.70
04/28/98	1.2	0.5	0.83	4.1	2.9	3.39	3.6	2.9	3.16
04/29/98	1.4	0.5	0.74	5.4	2.6	3.85	4.2	2.7	3.21
04/30/98	1.7	0.5	0.94	6.1	3.1	4.53	4.1	2.8	3.37



Table 3. WATER TEMPERATURES ( C ) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1996 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
05/01/98	2.1	0.7	1.27	6.3	3.4	4.90	7.5	3.0	4.75
05/02/98	1.9	1.0	1.30	6.0	3.3	4.67	9.7	3.9	6.02
05/03/98	2.1	0.9	1.33	6.3	3.6	4.94	8.5	3.5	5.32
05/04/98	2.6	0.9	1.57	7.1	3.6	5.35	9.7	3.9	6.25
05/05/98	2.9	0.9	1.87	6.9	4.1	5.60	5.0	4.2	4.60
05/06/98	3.1	1.2	2.04	7.1	4.9	6.09	7.5	4.3	5.23
05/07/98	2.7	1.0	1.93	6.7	4.7	5.79	6.1	4.0	5.32
05/08/98	2.7	0.9	1.89	6.3	4.3	5.44	6.0	4.8	5.42
05/09/98	3.4	0.9	2.22	7.5	4.5	6.08	6.5	4.7	5.59
05/10/98	4.1	1.2	2.71	8.4	5.0	6.79	6.5	5.3	5.75
05/11/98	4.3	1.9	3.10	8.8	6.5	7.70	8.1	5.2	6.50
05/12/98	3.8	2.1	3.00	9.2	7.1	8.11	7.1	6.2	6.64
05/13/98	3.3	2.1	2.70	8.0	6.9	7.53	7.0	6.1	6.50
05/14/98	3.4	1.9	2.65	7.8	6.1	7.03	7.9	6.4	7.09
05/15/98	3.8	1.5	2.79	7.5	6.0	6.85	7.1	5.3	6.69
05/16/98	4.9	2.4	3.66	9.0	6.3	7.73	8.2	6.5	7.11
05/17/98	4.9	3.1	3.95	9.2	7.5	8.36	8.3	6.0	7.06
05/18/98	5.6	2.4	4.02	9.6	6.9	8.28	9.2	7.8	8.41
05/19/98	5.8	2.7	4.43	9.6	7.1	8.45	9.7	7.8	8.63
05/20/98	6.0	2.9	4.61	9.6	6.7	8.30	9.9	8.1	8.84
05/21/98	5.6	3.6	4.78	8.8	7.7	8.28	9.7	8.3	9.01
05/22/98	6.0	4.0	4.99	9.0	7.3	8.25	10.9	8.0	9.04
05/23/98	6.5	4.1	5.33	9.8	7.5	8.71	10.5	8.8	9.48
05/24/98	7.8	5.0	6.46	11.1	8.4	9.63	9.0	5.8	7.51
05/25/98	7.3	5.8	6.58	9.8	8.8	9.33	9.0	6.8	8.35
05/26/98	7.8	5.2	6.70	11.3	8.8	10.01	9.3	6.4	8.10
05/27/98	8.4	6.0	7.29	12.1	9.6	10.89	9.2	6.3	8.22
05/28/98	8.6	6.7	7.76	12.4	10.4	11.35	10.9	7.5	9.00
05/29/98	9.4	6.7	8.06	12.6	10.4	11.40	11.1	8.1	9.38
05/30/98	9.2	7.1	8.28	13.0	10.7	11.90	11.3	8.6	9.66
05/31/98	9.6	7.8	8.66	13.5	11.7	12.40	11.5	8.8	10.42
06/01/98	8.6	7.1	7.99	11.9	10.7	11.28	10.1	8.2	9.28
06/02/98	9.0	7.1	8.18	12.1	10.0	11.08	11.9	8.7	9.88
06/03/98	9.4	7.6	8.66	12.8	10.7	11.65	9.5	8.1	8.68
06/04/98	10.2	7.7	8.82	13.5	10.2	11.84	11.2	8.2	9.06
06/05/98	10.2	8.0	9.13	14.2	10.7	12.42	12.6	8.5	10.49
06/06/98	10.9	9.0	9.93	13.9	12.1	13.11	11.9	8.8	10.45
06/07/98	11.1	9.2	10.15	14.4	11.9	13.27	12.3	7.5	9.63
06/08/98	12.4	9.6	10.81	15.6	12.4	13.98	15.1	8.6	11.08
06/09/98	11.1	10.4	10.73	14.4	13.3	13.65	13.3	10.9	11.29
06/10/98	10.9	9.4	10.05	13.9	11.9	12.99	12.1	10.8	11.51
06/11/98	9.4	8.0	8.72	12.4	10.7	11.58	11.5	11.0	11.27
06/12/98	9.4	7.1	8.22	12.4	9.0	10.82	11.6	10.9	11.31
06/13/98	10.2	7.7	8.86	13.5	9.8	11.71	12.6	10.9	11.75
06/14/98	9.8	8.8	9.23	12.4	11.3	11.75	12.4	11.7	11.98
06/15/98	9.2	8.0	8.65	11.9	10.2	11.22	12.3	11.3	11.81
06/16/98	9.4	7.8	8.70	12.4	10.0	11.32	12.5	11.8	12.03
06/17/98	9.6	8.4	8.98	12.6	10.7	11.63	13.5	11.9	12.63
06/18/98	9.8	8.8	9.19	12.6	11.1	11.78	13.1	12.4	12.86
06/19/98	11.3	8.2	9.54	14.2	10.7	12.34	14.4	12.8	13.37
06/20/98	11.9	9.0	10.28	14.9	11.3	13.21	15.1	13.7	14.40
06/21/98	12.4	9.6	10.87	15.6	11.9	13.73	16.5	14.3	15.34
06/22/98	11.5	10.4	10.97	14.4	12.8	13.70	15.9	15.1	15.40
06/23/98	10.4	9.2	9.94	13.3	11.5	12.63	15.7	14.9	15.20
06/24/98	11.3	9.2	9.94	14.6	11.3	12.98	18.0	15.0	15.43
06/25/98	10.4	9.2	9.82	13.5	11.9	12.88	15.9	15.3	15.62
06/26/98	10.9	9.6	10.23	13.3	11.9	12.70	16.2	15.5	15.83
06/27/98	11.7	9.2	10.37	14.4	11.3	12.85	17.2	15.7	16.24
06/28/98	12.4	9.6	10.82	14.4	11.3	13.00	17.9	15.9	16.83
06/29/98	12.6	10.9	11.73	14.9	12.8	13.80	17.5	16.6	17.11
06/30/98	12.6	11.1	11.94	15.1	13.0	14.09	18.2	17.4	17.79



Table 3. WATER TEMPERATURES (°C) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1998 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
07/01/98	12.4	11.5	11.95	14.6	13.5	14.05	18.4	17.5	17.89
07/02/98	13.3	11.5	12.32	15.6	13.5	14.49	19.3	17.7	18.22
07/03/98	13.5	11.7	12.55	15.6	13.7	14.71	19.8	18.3	18.90
07/04/98	13.3	11.5	12.40	15.6	13.5	14.56	19.9	18.9	19.35
07/05/98	13.7	11.9	12.69	15.6	13.7	14.76	19.9	19.0	19.33
07/06/98	13.3	11.9	12.58	15.8	13.9	14.97	19.9	18.8	19.21
07/07/98	12.1	11.1	11.63	14.6	13.0	14.05	18.8	17.7	18.33
07/08/98	12.4	10.0	11.10	15.1	12.1	13.73	18.9	17.4	18.11
07/09/98	11.9	10.4	11.21	15.3	12.8	14.17	19.5	17.8	18.60
07/10/98	12.8	11.3	11.93	16.1	13.9	14.90	19.6	18.2	18.89
07/11/98	12.1	11.1	11.63	14.9	13.7	14.34	18.7	17.5	18.09
07/12/98	11.7	10.4	11.11	14.4	12.6	13.66	18.4	17.5	18.04
07/13/98	11.1	10.2	10.59	13.5	12.1	13.01	17.5	16.1	16.87
07/14/98	10.9	9.8	10.34	12.8	11.9	12.38	16.8	15.5	16.04
07/15/98	10.9	9.4	10.25	13.5	11.1	12.36	17.2	15.6	16.18
07/16/98	10.9	10.0	10.48	12.8	11.9	12.48	16.4	15.7	16.11
07/17/98	11.9	10.7	11.13	13.7	12.1	12.95	16.3	15.3	15.77
07/18/98	11.9	9.6	10.77	14.2	11.1	12.73	17.1	15.4	16.25
07/19/98	12.1	10.9	11.35	13.9	12.8	13.26	16.9	16.0	16.57
07/20/98	11.5	9.8	10.74	14.6	11.5	13.14	17.2	15.1	16.11
07/21/98	12.1	10.4	11.25	14.9	13.0	13.89	17.4	16.2	16.83
07/22/98	12.6	10.4	11.48	15.3	12.4	14.03	19.0	16.8	17.59
07/23/98	13.0	11.5	12.24	15.8	13.9	14.84	18.9	18.0	18.43
07/24/98	13.0	11.5	12.31	16.3	13.9	15.15	19.1	18.0	18.54
07/25/98	13.3	11.5	12.36	17.1	13.9	15.48	20.3	18.0	18.85
07/26/98	13.7	11.5	12.48	17.6	14.2	15.97	21.7	18.2	19.21
07/27/98	13.5	11.7	12.55	17.1	14.6	16.01	20.2	18.6	19.14
07/28/98	13.7	11.7	12.63	17.8	14.6	16.30	20.2	18.6	19.35
07/29/98	13.9	12.1	12.99	18.6	15.6	17.08	23.2	18.9	20.74
07/30/98	13.5	11.7	12.61	17.8	14.6	16.43	23.2	20.5	21.46
07/31/98	13.3	11.3	12.33	17.6	14.4	16.05	23.5	20.2	21.64
08/01/98	13.0	11.5	12.12	17.1	14.4	15.88	21.1	18.7	19.89
08/02/98	12.6	10.7	11.68	16.8	13.5	15.16	21.7	18.9	19.76
08/03/98	12.6	10.9	11.70	16.8	13.9	15.47	20.4	19.0	19.63
08/04/98	12.8	11.3	11.88	17.1	14.6	15.91	22.6	19.1	20.69
08/05/98	11.9	11.3	11.62	16.1	14.4	15.21	20.8	19.0	19.99
08/06/98	12.1	10.9	11.42	14.9	13.5	14.23	19.3	18.2	18.83
08/07/98	11.5	10.7	11.15	14.4	12.8	13.82	19.1	17.7	18.54
08/08/98	11.1	10.4	10.94	13.7	12.8	13.24	18.7	17.9	18.21
08/09/98	11.9	10.7	11.35	13.9	12.6	13.27	18.4	17.5	17.85
08/10/98	11.3	10.0	10.60	13.9	11.7	12.89	18.9	17.2	17.93
08/11/98	10.4	9.6	10.13	12.8	11.3	11.89	18.0	16.7	17.47
08/12/98	11.7	10.0	10.81	14.2	11.7	12.82	18.3	16.4	17.25
08/13/98	11.7	10.2	11.05	14.4	12.1	13.35	19.0	17.2	17.97
08/14/98	11.9	10.7	11.13	14.4	12.6	13.42	18.2	16.9	17.43
08/15/98	11.5	10.4	10.91	14.2	12.4	13.25	18.7	16.2	17.41
08/16/98	11.7	10.2	10.90	14.4	12.4	13.41	17.4	16.2	16.75
08/17/98	11.5	10.2	10.91	14.4	12.1	13.36	18.2	15.7	16.87
08/18/98	11.7	10.4	11.00	14.6	12.4	13.55	17.4	14.7	16.00
08/19/98	11.5	10.0	10.73	14.4	11.9	13.22	17.8	15.2	16.35
08/20/98	11.1	9.8	10.56	13.9	12.1	13.09	17.0	16.1	16.53
08/21/98	11.5	10.0	10.77	14.4	12.4	13.44	17.8	16.1	16.77
08/22/98	11.3	10.0	10.62	14.6	12.4	13.57	17.0	15.2	16.08
08/23/98	11.3	9.8	10.53	14.4	12.4	13.44	17.5	15.3	16.30
08/24/98	10.9	9.8	10.33	13.5	12.1	12.90	16.4	15.8	15.97
08/25/98	10.9	10.0	10.47	13.3	12.4	12.85	16.1	15.4	15.81
08/26/98	10.2	9.6	9.96	12.4	11.3	11.82	15.8	15.3	15.56
08/27/98	10.4	9.2	9.81	12.1	10.9	11.53	15.6	15.3	15.43
08/28/98	11.1	9.4	10.08	13.0	11.1	12.04	16.1	15.1	15.45
08/29/98	10.9	9.4	10.20	13.5	11.3	12.41	16.4	15.0	15.53
08/30/98	10.4	9.0	9.73	13.0	10.9	11.98	15.8	15.0	15.43
08/31/98	10.9	9.4	10.06	13.7	11.5	12.63	16.3	15.3	15.65

Table 3. WATER TEMPERATURES (°C) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1998 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
09/01/98	10.9	9.8	10.35	14.2	12.8	13.61	16.8	15.3	15.95
09/02/98	10.9	9.4	10.24	13.7	12.1	13.19	16.6	15.2	15.81
09/03/98	9.6	8.6	9.16	11.9	10.2	10.85	15.4	14.9	15.10
09/04/98	9.2	8.0	8.69	10.7	8.8	9.83	15.2	14.3	14.71
09/05/98	9.4	7.8	8.59	10.9	8.6	9.85	15.2	14.3	14.69
09/06/98	9.0	8.8	8.89	10.9	10.7	10.76	14.6	13.7	14.08
09/07/98	9.2	8.2	8.68	10.9	9.6	10.36	14.3	13.6	13.85
09/08/98	8.6	7.5	8.04	10.2	8.4	9.48	14.8	13.3	13.98
09/09/98	7.8	6.9	7.53	9.6	8.0	8.70	13.9	13.3	13.60
09/10/98	7.7	6.7	7.43	9.4	8.0	8.73	13.4	12.8	13.13
09/11/98	8.4	7.3	7.73	10.0	8.4	9.26	13.0	12.0	12.59
09/12/98	8.6	7.5	7.98	10.0	8.6	9.26	13.1	12.6	12.83
09/13/98	7.8	7.1	7.46	9.4	8.0	8.78	12.6	11.5	12.13
09/14/98	7.7	6.5	7.01	8.6	7.5	8.09	12.7	11.9	12.23
09/15/98	7.1	5.8	6.52	7.8	6.3	7.28	12.2	11.6	11.95
09/16/98	7.3	6.3	6.75	9.0	7.3	8.10	12.9	11.5	12.08
09/17/98	6.9	5.8	6.33	8.6	6.9	7.80	12.9	11.6	12.16
09/18/98	7.1	5.8	6.36	8.8	6.9	7.85	12.9	11.7	12.23
09/19/98	7.3	6.0	6.55	9.0	7.1	8.13	13.4	11.7	12.29
09/20/98	7.1	6.0	6.42	8.2	7.1	7.64	13.0	11.6	12.28
09/21/98	7.3	6.1	6.61				13.4	12.0	12.54
09/22/98	7.1	6.0	6.43				12.6	11.5	12.10
09/23/98	6.9	6.0	6.46				12.2	11.6	11.99
09/24/98	7.1	6.3	6.70				12.0	11.3	11.65
09/25/98	7.1	6.3	6.83	8.8			12.3	10.7	11.53
09/26/98	7.7	6.1	6.86	9.1	7.5	8.38	12.1	11.1	11.57
09/27/98	7.7	6.5	7.03	9.5	8.1	8.83	12.7	11.2	11.75
09/28/98	6.9	6.0	6.46	8.7	7.5	8.06	11.7	10.9	11.30
09/29/98	6.7	5.6	6.15	7.8	6.6	7.18	11.5	11.1	11.25
09/30/98	7.1	6.1	6.64	8.4	7.5	7.96	11.2	11.1	11.18
10/01/98	7.5	6.7	7.05	9.1	8.2	8.63	11.3	11.0	11.13
10/02/98	6.9	6.1	6.47	8.5	7.5	7.98	11.0	10.6	10.79
10/03/98	6.3	5.6	6.03	7.4	7.0	7.19	10.7	10.5	10.58
10/04/98	6.3	5.6	5.88	7.3	6.6	6.94	10.7	10.1	10.42
10/05/98	5.4	4.5	4.70	6.6	6.0	6.35	10.2	10.0	10.05
10/06/98	6.1	4.7	5.54	7.3	6.5	6.86	10.1	9.8	9.95
10/07/98	5.6	4.7	5.10	7.0	5.9	6.39	10.1	9.6	9.78
10/08/98	4.7	4.0	4.47	6.0	5.4	5.68	9.7	9.4	9.62
10/09/98	4.0	2.9	3.18	5.2	4.2	4.49	9.4	8.8	8.98
10/10/98	3.4	2.7	3.13	4.8	3.9	4.33	9.0	8.5	8.80
10/11/98	3.1	2.7	2.88	4.3	3.7	4.05	8.5	8.2	8.33
10/12/98	2.9	2.6	2.82	4.1	3.8	3.95	8.2	7.9	7.95
10/13/98	4.3	3.1	3.60	5.5	4.1	4.69	8.2	7.9	7.98
10/14/98	3.4	2.7	3.22	4.7	4.0	4.36	8.2	7.6	7.88
10/15/98	2.7	2.2	2.46	3.8	2.9	3.38	7.7	7.5	7.57
10/16/98	3.1	2.2	2.57	3.8	3.0	3.32	7.6	7.4	7.50
10/17/98	3.1	2.2	2.58	3.8	3.0	3.43	7.5	6.8	7.12
10/18/98	3.1	2.1	2.57	3.8	2.8	3.28	7.3	6.8	7.03
10/19/98	4.0	2.9	3.37	4.5	3.5	3.95	7.3	7.0	7.14
10/20/98	3.4	2.9	3.22	4.1	3.5	3.83	7.3	6.9	7.08
10/21/98	3.1	2.6	2.88	4.0	3.0	3.53	7.3	6.8	6.96
10/22/98	3.1	2.2	2.63	3.9	2.6	3.26	7.1	6.6	6.81
10/23/98	2.6	2.1	2.26	3.5	2.4	2.95	7.0	6.5	6.71
10/24/98	2.7	1.9	2.25	3.1	2.1	2.67	6.8	6.5	6.62
10/25/98	4.0	2.4	3.19	4.0	2.8	3.33	6.8	6.5	6.63
10/26/98	3.8	3.1	3.46	4.1	3.5	3.81	6.7	6.4	6.55
10/27/98	4.0	3.3	3.56	4.2	3.8	3.97	6.5	6.5	6.50
10/28/98	3.3	2.1	2.63	3.7	2.8	3.27	6.4	5.6	6.03
10/29/98	1.9	0.9	1.28	2.5	1.6	1.98	6.4	5.9	6.03
10/30/98	1.5	0.9	1.27	2.1	1.6	1.81	6.1	5.9	6.04
10/31/98	2.2	1.5	1.95	2.8	2.1	2.49	6.1	6.0	6.07

Table 3. WATER TEMPERATURES (°C) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1998 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
11/01/98	2.7	2.1	2.44	3.5	2.8	3.08	6.2	6.0	6.10
11/02/98	2.9	2.6	2.72	3.5	3.2	3.40	6.1	6.0	6.09
11/03/98	2.7	2.6	2.64	3.4	3.2	3.29	6.0	5.9	5.99
11/04/98	2.6	2.4	2.49	3.3	3.1	3.18	5.9	5.9	5.90
11/05/98	2.4	2.2	2.35	3.3	3.1	3.18	5.9	5.8	5.84
11/06/98	2.4	2.1	2.18	3.2	3.0	3.08	5.8	5.6	5.76
11/07/98	2.1	1.5	1.78	2.9	2.2	2.44	5.6	5.5	5.56
11/08/98	1.7	1.2	1.54	2.3	1.8	2.10	5.6	5.3	5.46
11/09/98	1.2	0.2	0.56	1.8	0.6	1.03	5.3	5.0	5.20
11/10/98	0.5	0.2	0.33	0.7	0.4	0.51	5.0	4.3	4.81
11/11/98	0.4	0.2	0.31	0.7	0.3	0.47	4.8	4.5	4.77
11/12/98	0.5	0.4	0.44	0.9	0.4	0.66	4.9	4.6	4.81
11/13/98	0.5	0.2	0.32	0.6	0.2	0.39	4.7	3.9	4.31
11/14/98	0.2	0.2	0.20	0.4	0.2	0.31	4.4	4.2	4.32
11/15/98	0.2	0.2	0.20	0.4	0.1	0.28	4.1	3.6	3.88
11/16/98	0.2	-0.1	0.07	0.2	0.1	0.15	4.3	4.0	4.10
11/17/98	0.2	0.0	0.10	0.2	0.2	0.20	4.1	3.8	4.01
11/18/98	0.2	0.0	0.18	0.3	0.1	0.16	3.7	2.5	3.18
11/19/98	0.2	0.0	0.17	0.2	0.2	0.20	3.7	3.5	3.63
11/20/98	0.4	0.2	0.24	0.3	0.2	0.27	3.8	3.5	3.67
11/21/98	0.4	0.2	0.28	0.4	0.2	0.30	3.8	3.6	3.67
11/22/98	0.2	0.2	0.20	0.3	0.1	0.22	3.7	3.4	3.55
11/23/98	0.2	0.0	0.14	0.3	0.1	0.15	3.5	3.0	3.34
11/24/98	0.4	0.2	0.28	0.3	0.1	0.20	3.4	3.1	3.27
11/25/98	0.5	0.0	0.34	0.3	0.1	0.23	3.5	3.1	3.34
11/26/98	0.5	0.2	0.41	0.4	0.2	0.27	3.5	3.3	3.36
11/27/98	0.4	0.2	0.22	0.2	0.1	0.12	3.3	2.2	2.90
11/28/98	0.2	0.0	0.13	0.1	0.1	0.10	2.9	2.4	2.71
11/29/98	0.2	0.0	0.15	0.2	0.1	0.13	2.9	2.6	2.82
11/30/98	0.2	0.0	0.17	0.2	0.1	0.18	2.8	2.7	2.79
12/01/98	0.2	0.0	0.19	0.2	0.2	0.20	2.8	2.6	2.77
12/02/98	0.4	0.2	0.28	0.2	0.2	0.20	2.8	2.6	2.73
12/03/98	0.4	0.2	0.24	0.2	0.2	0.20	2.8	2.5	2.63
12/04/98	0.4	0.2	0.28	0.2	0.2	0.20	2.5	2.3	2.43
12/05/98	0.4	0.0	0.19	0.2	0.2	0.20	2.4	2.2	2.32
12/06/98	0.4	0.0	0.21	0.2	0.1	0.18	2.2	1.2	1.74
12/07/98	0.2	0.2	0.20	0.2	0.1	0.15	2.2	1.6	1.90
12/08/98	0.2	-0.1	0.04	0.1	0.1	0.10	2.0	1.7	1.88
12/09/98	0.2	0.0	0.18	0.2	0.1	0.13	1.8	1.4	1.54
12/10/98	0.2	0.0	0.18	0.2	0.1	0.18	1.7	1.3	1.55
12/11/98	0.4	0.2	0.31	0.3	0.1	0.24	1.6	1.3	1.50
12/12/98	0.4	0.2	0.38	0.3	0.2	0.21	1.7	1.6	1.66
12/13/98	0.4	0.0	0.18	0.2	0.1	0.13	1.8	1.5	1.63
12/14/98	0.0	0.0	0.00	0.1	0.1	0.10	1.6	1.4	1.53
12/15/98	0.2	-0.1	0.05	0.1	0.1	0.10	1.7	1.5	1.59
12/16/98	0.2	0.0	0.03	0.1	0.1	0.10	1.8	1.4	1.60
12/17/98	0.0	0.0	0.00	0.1	0.1	0.10	1.6	1.4	1.54
12/18/98	0.2	-0.1	-0.01	0.1	0.1	0.10	1.5	1.3	1.40
12/19/98	0.0	0.0	0.00	0.1	0.1	0.10	1.6	1.4	1.44
12/20/98	0.0	-0.1	-0.00	0.2	0.1	0.12	1.5	1.4	1.47
12/21/98	0.0	0.0	0.00	0.2	0.1	0.14	1.6	1.4	1.49
12/22/98	0.2	0.0	0.01	0.1	0.1	0.10	1.6	1.4	1.47
12/23/98	0.2	0.0	0.03	0.2	0.1	0.13	1.5	1.3	1.40
12/24/98	0.2	0.2	0.20	0.2	0.2	0.20	1.5	1.3	1.40
12/25/98	0.2	0.2	0.20	0.2	0.2	0.20	1.6	1.3	1.44
12/26/98	0.2	0.2	0.20	0.2	0.2	0.20	1.6	1.3	1.46
12/27/98	0.2	0.2	0.20	0.2	0.1	0.15	1.7	1.5	1.56
12/28/98	0.2	0.2	0.20	0.1	0.1	0.10	1.6	1.3	1.42
12/29/98	0.2	0.2	0.20	0.1	0.1	0.10	1.5	1.3	1.41
12/30/98	0.2	0.2	0.20	0.2	0.1	0.13	1.5	1.3	1.40
12/31/98	0.2	0.0	0.18	0.2	0.1	0.18	1.7	1.2	1.44

Table 3. WATER TEMPERATURES (°C) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1996 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
01/01/99	0.2	0.2	0.20	0.2	0.2	0.20	1.8	1.3	1.48
01/02/99	0.2	0.2	0.20	0.2	0.2	0.20	1.8	1.5	1.66
01/03/99	0.2	0.2	0.20	0.2	0.1	0.15	1.7	1.5	1.65
01/04/99	0.2	0.2	0.20	0.2	0.1	0.11	1.8	1.6	1.71
01/05/99	0.2	0.2	0.20	0.1	0.1	0.10	1.8	1.2	1.65
01/06/99	0.2	0.0	0.19	0.1	0.1	0.10	1.8	1.2	1.39
01/07/99	0.2	0.2	0.20	0.1	0.1	0.10	1.5	1.3	1.39
01/08/99	0.2	0.2	0.20	0.2	0.1	0.18	1.7	1.2	1.42
01/09/99	0.2	0.2	0.20	0.2	0.2	0.20	1.6	1.3	1.44
01/10/99	0.2	0.2	0.20	0.2	0.2	0.20	1.7	1.4	1.54
01/11/99	0.2	0.2	0.20	0.2	0.2	0.20	1.7	1.5	1.61
01/12/99	0.2	0.2	0.20	0.2	0.1	0.12	1.8	1.4	1.60
01/13/99	0.2	0.2	0.20	0.1	0.1	0.10	1.7	1.3	1.50
01/14/99	0.2	0.2	0.20	0.1	0.1	0.10	1.7	1.5	1.65
01/15/99	0.4	0.2	0.22	0.1	0.1	0.10	1.8	1.4	1.55
01/16/99	0.2	0.2	0.20	0.2	0.1	0.14	1.8	1.3	1.44
01/17/99	0.2	0.2	0.20	0.2	0.2	0.20	1.5	1.4	1.46
01/18/99	0.2	0.2	0.20	0.2	0.1	0.18	1.5	1.2	1.36
01/19/99	0.2	0.2	0.20	0.2	0.1	0.19	1.4	0.9	1.13
01/20/99	0.2	0.2	0.20	0.2	0.1	0.16	1.1	0.8	0.97
01/21/99	0.2	0.2	0.20	0.1	0.1	0.10	1.0	0.8	0.95
01/22/99	0.2	0.2	0.20	0.1	0.1	0.10	0.9	0.6	0.79
01/23/99	0.2	0.0	0.16	0.1	0.1	0.10	0.8	0.6	0.70
01/24/99	0.2	0.2	0.20	0.1	0.1	0.10	0.7	0.5	0.60
01/25/99	0.2	0.2	0.20	0.2	0.1	0.16	0.7	0.6	0.61
01/26/99	0.2	0.2	0.20	0.2	0.2	0.20	0.8	0.6	0.68
01/27/99	0.2	0.2	0.20	0.2	0.2	0.20	0.8	0.6	0.70
01/28/99	0.2	0.2	0.20	0.2	0.2	0.20	0.7	0.6	0.65
01/29/99	0.2	0.2	0.20	0.2	0.1	0.15	0.7	0.5	0.62
01/30/99	0.2	0.2	0.20	0.2	0.1	0.13	0.6	0.4	0.58
01/31/99	0.2	0.2	0.20	0.2	0.2	0.20	0.7	0.5	0.61
02/01/99	0.2	0.2	0.20	0.2	0.2	0.20	0.7	0.5	0.62
02/02/99	0.2	0.2	0.20	0.2	0.1	0.17	0.6	0.5	0.59
02/03/99	0.2	0.2	0.20	0.1	0.1	0.10	0.6	0.4	0.54
02/04/99	0.2	0.2	0.20	0.1	0.1	0.10	0.6	0.4	0.53
02/05/99	0.2	0.2	0.20	0.1	0.1	0.10	0.6	0.4	0.55
02/06/99	0.2	0.2	0.20	0.1	0.1	0.10	0.7	0.5	0.58
02/07/99	0.2	0.2	0.20	0.1	0.1	0.10	0.7	0.4	0.57
02/08/99	0.2	0.2	0.20	0.1	0.1	0.10	0.6	0.4	0.53
02/09/99	0.2	0.2	0.20	0.1	0.1	0.10	0.6	0.4	0.50
02/10/99	0.2	0.2	0.20	0.1	0.1	0.10	0.6	0.4	0.51
02/11/99	0.2	0.2	0.20	0.2	0.1	0.11	0.6	0.4	0.50
02/12/99	0.2	0.2	0.20	0.2	0.1	0.15	0.6	0.5	0.55
02/13/99	0.2	0.2	0.20	0.2	0.2	0.20	0.6	0.5	0.55
02/14/99	0.2	0.2	0.20	0.2	0.2	0.20	0.6	0.4	0.52
02/15/99	0.2	0.2	0.20	0.2	0.2	0.20	0.6	0.5	0.53
02/16/99	0.2	0.2	0.20	0.2	0.2	0.20	0.5	0.4	0.47
02/17/99	0.2	0.2	0.20	0.2	0.2	0.20	0.5	0.4	0.46
02/18/99	0.2	0.2	0.20	0.2	0.2	0.20	0.6	0.4	0.47
02/19/99	0.2	0.2	0.20	0.2	0.2	0.20	0.5	0.4	0.44
02/20/99	0.4	0.2	0.22	0.2	0.1	0.17	0.6	0.4	0.46
02/21/99	0.4	0.2	0.27	0.1	0.1	0.10	0.6	0.4	0.48
02/22/99	0.4	0.2	0.23	0.1	0.1	0.10	0.6	0.4	0.48
02/23/99	0.2	0.2	0.20	0.1	0.1	0.10	0.6	0.4	0.49
02/24/99	0.4	0.2	0.25	0.1	0.1	0.10	0.6	0.4	0.47
02/25/99	0.4	0.2	0.33	0.2	0.1	0.12	0.6	0.4	0.52
02/26/99	0.4	0.2	0.26	0.2	0.1	0.15	0.6	0.4	0.50
02/27/99	0.4	0.2	0.31	0.2	0.2	0.20	0.5	0.4	0.49
02/28/99	0.4	0.4	0.40	0.2	0.2	0.20	0.6	0.4	0.54

Table 3. WATER TEMPERATURES (°C) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1998 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
03/01/99	0.4	0.4	0.40	0.2	0.2	0.20	0.6	0.4	0.52
03/02/99	0.4	0.2	0.34	0.2	0.2	0.20	0.6	0.4	0.50
03/03/99	0.4	0.2	0.39	0.2	0.2	0.20	0.6	0.3	0.48
03/04/99	0.4	0.2	0.31	0.2	0.1	0.18	0.6	0.4	0.45
03/05/99	0.4	0.2	0.25	0.2	0.1	0.12	0.6	0.3	0.42
03/06/99	0.4	0.2	0.27	0.1	0.1	0.10	0.6	0.4	0.47
03/07/99	0.4	0.2	0.32	0.2	0.1	0.13	0.6	0.4	0.48
03/08/99	0.4	0.2	0.32	0.2	0.1	0.13	0.7	0.4	0.51
03/09/99	0.4	0.4	0.40	0.2	0.1	0.14	0.8	0.4	0.56
03/10/99	0.4	0.2	0.34	0.2	0.1	0.18	0.6	0.4	0.52
03/11/99	0.5	0.2	0.35	0.2	0.2	0.20	0.6	0.3	0.49
03/12/99	0.5	0.4	0.41	0.2	0.2	0.20	0.6	0.4	0.55
03/13/99	0.5	0.4	0.43	0.2	0.2	0.20	0.8	0.5	0.56
03/14/99	0.5	0.2	0.39	0.2	0.2	0.20	0.7	0.4	0.53
03/15/99	0.4	0.2	0.33	0.2	0.1	0.19	0.6	0.4	0.51
03/16/99	0.4	0.2	0.32	0.2	0.1	0.13	0.8	0.4	0.60
03/17/99	0.4	0.2	0.31	0.2	0.1	0.12	0.6	0.4	0.53
03/18/99	0.5	0.2	0.40	0.3	0.1	0.13	0.6	0.4	0.58
03/19/99	0.4	0.2	0.31	0.2	0.1	0.11	0.8	0.4	0.59
03/20/99	0.5	0.2	0.40	0.3	0.1	0.17	1.0	0.5	0.72
03/21/99	0.5	0.2	0.36	0.3	0.1	0.18	1.1	0.6	0.73
03/22/99	0.2	0.0	0.19	0.2	0.1	0.15	1.1	0.6	0.73
03/23/99	0.2	0.2	0.20	0.2	0.1	0.18	1.0	0.6	0.71
03/24/99	0.4	0.2	0.23	0.2	0.1	0.19	1.0	0.5	0.72
03/25/99	0.4	0.2	0.24	0.2	0.1	0.19	1.0	0.6	0.75
03/26/99	0.5	0.2	0.30	0.2	0.1	0.15	1.2	0.5	0.79
03/27/99	0.5	0.2	0.35	0.4	0.1	0.16	1.3	0.6	0.89
03/28/99	0.5	0.2	0.34	0.3	0.1	0.14	1.2	0.7	0.88
03/29/99	0.7	0.2	0.37	0.4	0.1	0.15	1.3	0.7	0.92
03/30/99	0.5	0.4	0.43	0.3	0.1	0.16	1.2	0.7	0.94
03/31/99	0.7	0.4	0.46	0.4	0.1	0.19	1.4	0.9	1.05
04/01/99	0.7	0.2	0.43	0.3	0.1	0.17	1.3	0.7	1.01
04/02/99	0.7	0.4	0.51	0.4	0.1	0.23	1.3	0.8	1.04
04/03/99	0.7	0.2	0.48	0.5	0.1	0.21	1.7	0.6	1.09
04/04/99	0.7	0.4	0.50	0.5	0.1	0.24	1.3	0.9	1.05
04/05/99	0.7	0.2	0.47	0.7	0.1	0.25	1.6	0.9	1.17
04/06/99	0.9	0.4	0.54	0.6	0.2	0.34	1.8	0.9	1.20
04/07/99	0.7	0.5	0.57	0.8	0.2	0.37	1.7	1.0	1.22
04/08/99	0.7	0.4	0.53	0.8	0.1	0.28	1.6	0.9	1.14
04/09/99	0.9	0.2	0.53	0.8	0.1	0.27	1.8	1.0	1.30
04/10/99	0.7	0.2	0.47	0.8	0.1	0.33	1.9	1.0	1.35
04/11/99	0.7	0.4	0.50	0.5	0.1	0.28	1.3	1.1	1.21
04/12/99	0.9	0.4	0.58	0.9	0.1	0.42	1.7	1.1	1.32
04/13/99	0.9	0.4	0.55	0.8	0.1	0.37	1.8	0.8	1.26
04/14/99	1.0	0.4	0.61	1.1	0.1	0.47	2.1	1.0	1.45
04/15/99	1.0	0.4	0.64	1.5	0.1	0.63	2.3	1.1	1.63
04/16/99	1.0	0.2	0.57	1.6	0.2	0.73	2.5	1.3	1.72
04/17/99	0.7	0.0	0.31	1.1	0.1	0.50	2.5	1.3	1.85
04/18/99	0.2	0.0	0.13	0.8	0.2	0.42	2.4	1.4	1.88
04/19/99	0.2	0.0	0.09	0.8	0.1	0.33	2.6	1.5	1.92
04/20/99	0.2	0.0	0.07	0.4	0.1	0.24	2.8	1.6	2.10
04/21/99	0.2	0.0	0.07	0.6	0.1	0.25	2.6	1.6	2.07
04/22/99	0.2	0.0	0.09	0.9	0.1	0.37	3.3	1.5	2.16
04/23/99	0.5	0.2	0.30	1.4	0.2	0.68	3.1	1.8	2.26
04/24/99	0.9	0.2	0.50	1.5	0.7	1.11	2.5	1.6	2.12
04/25/99	1.0	0.4	0.66	1.6	0.8	1.19	2.8	1.6	2.22
04/26/99	1.4	0.4	0.75	2.1	0.6	1.34	2.9	1.8	2.29
04/27/99	1.7	0.2	0.80	3.2	0.7	1.79	3.4	1.9	2.55
04/28/99	1.7	0.4	0.90	3.3	1.0	2.07	3.2	2.1	2.60
04/29/99	1.9	0.5	1.07	3.6	1.4	2.36	3.1	2.3	2.65
04/30/99	1.9	0.9	1.27	4.0	2.0	2.79	3.2	2.5	2.74



Table 3. WATER TEMPERATURES (°C) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1996 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
05/01/99	1.9	0.7	1.22	3.5	1.7	2.67	3.2	2.5	2.76
05/02/99	1.7	0.9	1.15	3.3	2.2	2.64	3.3	1.8	2.37
05/03/99	1.5	0.4	0.93	3.3	1.6	2.43	2.2	1.5	1.86
05/04/99	1.7	0.4	0.99	3.5	1.8	2.63	3.2	1.9	2.31
05/05/99	1.9	0.4	1.20	3.7	1.9	2.87	3.2	2.4	2.83
05/06/99	2.6	1.4	1.83	4.1	3.0	3.59	3.4	2.6	3.04
05/07/99	1.9	0.9	1.28	3.4	2.1	2.68	3.9	2.2	3.17
05/08/99	1.9	0.5	1.25	3.7	1.7	2.74	3.8	2.2	3.08
05/09/99	2.1	0.7	1.39	4.1	2.2	3.16	3.8	1.6	3.08
05/10/99	2.6	0.9	1.65	4.3	2.3	3.39	3.8	3.0	3.30
05/11/99	2.6	1.4	2.03	4.8	3.2	4.05	3.8	3.1	3.40
05/12/99	3.4	1.4	2.29	6.5	3.3	4.76	5.9	3.2	4.20
05/13/99	3.1	1.9	2.31	5.7	4.2	4.97	5.3	3.8	4.43
05/14/99	2.9	1.5	2.15	6.0	3.9	4.84	4.8	3.9	4.25
05/15/99	3.1	1.4	2.11	6.0	3.9	4.90	4.6	4.0	4.32
05/16/99	2.9	1.5	2.17	6.5	4.7	5.45	4.8	4.1	4.45
05/17/99	3.6	1.5	2.35	7.1	4.7	5.88	6.0	4.1	4.91
05/18/99	2.7	1.5	2.14	6.0	4.5	5.38	5.0	4.5	4.76
05/19/99	2.9	1.5	2.18	7.0	5.0	5.98	5.8	4.5	5.08
05/20/99	2.9	1.4	2.13	7.2	5.0	6.15	5.8	4.8	5.15
05/21/99	3.3	1.4	2.37	7.6	5.4	6.43	5.5	4.9	5.21
05/22/99	2.2	1.5	1.86	6.3	5.4	5.89	5.2	4.8	5.03
05/23/99	2.6	1.5	2.03	7.1	5.4	6.19	5.2	4.6	4.93
05/24/99	2.7	1.5	2.08	7.5	6.0	6.60	5.0	4.0	4.65
05/25/99	2.7	1.2	2.01	6.7	5.1	5.89	5.6	4.6	5.07
05/26/99	2.6	1.0	1.93	6.1	4.3	5.28	5.4	4.7	5.01
05/27/99	3.4	1.7	2.51	6.7	5.0	5.86	6.1	4.8	5.33
05/28/99	3.3	1.7	2.58	6.7	4.9	5.89	5.9	4.9	5.33
05/29/99	4.5	1.5	2.98	8.4	5.0	6.65	6.3	4.8	5.60
05/30/99	3.6	2.6	3.13	7.7	6.4	7.13	6.1	5.6	5.86
05/31/99	3.8	2.4	3.10	8.2	6.3	7.18	6.1	5.4	5.82
06/01/99	4.5	2.1	3.26	8.0	6.0	7.06	6.4	4.9	5.77
06/02/99	5.4	2.2	3.87	9.2	6.2	7.77	7.6	5.8	6.43
06/03/99	4.7	2.9	3.86	8.7	7.4	8.09	7.5	6.4	6.74
06/04/99	3.8	2.4	3.16	7.6	6.2	6.88	6.6	5.6	6.31
06/05/99	3.6	2.4	3.13	7.2	5.9	6.56	6.4	5.5	6.04
06/06/99	4.3	2.4	3.46	7.4	6.0	6.79	6.7	6.1	6.39
06/07/99	4.0	2.9	3.47	7.1	6.2	6.70	6.4	6.1	6.27
06/08/99	5.2	2.7	3.97	8.9	6.3	7.48	7.3	6.0	6.64
06/09/99	4.7	3.1	3.88	8.2	6.8	7.47	7.4	6.4	6.80
06/10/99	6.5	2.9	4.64	10.2	6.7	8.37	9.6	6.6	7.59
06/11/99	6.7	4.0	5.37	10.9	7.8	9.36	7.5	6.1	6.70
06/12/99	7.5	3.6	5.58	11.0	7.8	9.41	7.2	5.5	6.25
06/13/99	6.3	4.9	5.69	9.5	8.4	8.96	8.9	5.3	6.49
06/14/99	8.0	4.9	6.41	10.4	8.1	9.23	10.0	6.4	7.68
06/15/99	8.6	5.2	7.03	11.1	8.1	9.55	9.3	6.1	7.30
06/16/99	7.8	6.1	7.11	9.7	8.6	9.14	10.1	6.0	8.23
06/17/99	7.5	5.4	6.58	9.8	7.6	8.79	9.2	7.5	8.12
06/18/99	6.9	5.8	6.43	9.2	8.4	8.78	9.4	8.4	8.84
06/19/99	7.3	5.8	6.61	9.2	8.0	8.58	9.1	8.6	8.83
06/20/99	6.7	5.8	6.33	8.5	7.9	8.26	10.3	8.8	9.38
06/21/99	7.1	5.2	6.26	9.3	7.3	8.24	10.1	9.7	9.80
06/22/99	7.3	6.0	6.55	9.5	7.9	8.53	9.6	9.4	9.64
06/23/99	7.7	5.8	6.70	9.8	7.7	8.60	10.0	9.4	9.71
06/24/99	7.8	6.0	7.04	10.0	8.2	9.20	10.8	9.7	10.23
06/25/99	8.6	6.1	7.39	10.7	8.6	9.58	11.9	10.2	10.83
06/26/99	7.7	6.9	7.22	9.8	8.9	9.34	11.6	10.9	11.18
06/27/99	7.8	6.3	7.06	9.7	8.2	8.79	11.0	10.5	10.70
06/28/99	7.3	6.5	6.93	8.8	7.6	8.22	11.0	10.3	10.54
06/29/99	7.5	6.7	7.15	8.8	7.7	8.26	10.9	10.0	10.50
06/30/99	7.7	6.5	7.21	9.2	7.8	8.38	10.9	10.4	10.56

Table 3. WATER TEMPERATURES (°C) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1996 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
07/01/99	7.5	6.5	7.07	8.8	7.6	8.13	10.9	10.3	10.60
07/02/99	8.2	6.5	7.40	9.5	7.5	8.32	11.0	9.6	10.54
07/03/99	9.2	6.5	7.92	10.7	7.4	8.93	12.6	9.6	11.16
07/04/99	9.2	7.7	8.47	10.6	8.4	9.37	12.4	11.2	11.74
07/05/99	9.4	7.7	8.56	11.7	8.7	9.99	12.5	9.6	11.13
07/06/99	10.2	7.7	8.93	12.1	8.7	10.25	11.4	10.0	10.88
07/07/99	9.6	8.0	8.86	11.3	9.2	10.26	13.3	11.2	12.24
07/08/99	10.4	8.2	9.15	13.0	9.6	11.08	12.6	11.2	11.75
07/09/99	11.1	8.2	9.65	12.7	9.5	11.16	13.3	11.0	11.86
07/10/99	11.7	9.6	10.63	13.2	10.7	12.02	13.8	11.9	12.96
07/11/99	11.5	10.2	10.81	13.0	11.5	12.18	13.6	12.7	13.15
07/12/99	10.7	9.0	9.77	12.5	10.2	11.33	13.5	12.6	12.93
07/13/99	9.2	8.2	8.85	10.7	9.5	10.24	12.6	12.0	12.33
07/14/99	8.8	8.0	8.54	10.0	9.1	9.56	12.5	12.3	12.39
07/15/99	8.8	7.5	8.17	10.4	8.5	9.52	12.5	11.2	12.03
07/16/99	10.0	6.7	8.27	12.0	7.7	9.82	13.9	11.4	12.43
07/17/99	10.9	8.2	9.41	12.5	9.2	10.88	16.1	11.9	12.90
07/18/99	12.1	9.0	10.42	14.3	10.1	12.19	15.3	12.0	14.06
07/19/99	12.4	10.2	11.18	15.0	11.5	13.27	14.0	13.0	13.59
07/20/99	11.9	10.9	11.32	14.3	12.4	13.40	15.7	13.7	14.41
07/21/99	11.9	10.4	11.20	14.3	11.8	13.18	15.6	14.8	15.25
07/22/99	11.3	10.2	10.89	13.1	12.0	12.56	15.1	14.6	14.98
07/23/99	10.4	9.4	9.83	13.0	10.7	11.84	14.9	14.1	14.53
07/24/99	10.2	8.6	9.39	12.7	10.1	11.43	15.1	14.1	14.56
07/25/99	9.6	8.4	9.08	11.4	9.5	10.66	14.8	14.1	14.35
07/26/99	10.7	8.8	9.67	13.3	10.2	11.78	15.1	13.9	14.47
07/27/99	10.4	9.6	10.08	12.5	11.5	12.13	14.9	14.5	14.64
07/28/99	10.7	9.6	10.33	12.1	11.0	11.58	14.9	14.3	14.61
07/29/99	10.0	8.6	9.38	11.6	9.6	10.70	14.4	13.5	13.99
07/30/99	10.7	8.6	9.39	12.0	9.4	10.57	15.1	13.8	14.36
07/31/99	10.4	8.2	9.35	12.3	9.5	10.93	14.5	13.9	14.15
08/01/99	10.9	8.4	9.60	13.2	9.9	11.57	15.0	13.5	14.20
08/02/99	10.9	8.6	9.68	13.6	10.2	11.90	16.3	13.7	14.84
08/03/99	11.3	9.0	10.15	14.1	10.6	12.40	16.3	15.3	16.79
08/04/99	12.4	10.0	11.10	15.0	11.7	13.34	16.5	16.3	17.44
08/05/99	13.0	10.9	11.85	16.3	12.7	14.55	19.3	17.0	18.15
08/06/99	12.8	11.3	12.12	15.8	13.5	14.72	20.8	18.0	19.10
08/07/99	14.2	12.4	13.12	15.9	13.8	14.82	20.2	18.6	19.48
08/08/99	13.3	12.1	12.68	15.1	13.5	14.32	19.8	19.0	19.31
08/09/99	12.1	11.3	11.74	14.1	12.7	13.39	18.9	18.1	18.58
08/10/99	11.5	10.0	10.88	13.7	11.5	12.72	18.2	17.4	17.79
08/11/99	10.9	10.4	10.59	12.5	11.8	12.11	17.9	17.0	17.32
08/12/99	10.9	10.0	10.40	12.6	11.3	11.89	17.2	16.9	17.03
08/13/99	10.7	9.2	9.93	13.0	10.4	11.76	18.6	16.7	17.36
08/14/99	10.7	9.2	10.00	12.7	10.6	11.74	17.8	17.0	17.43
08/15/99	10.9	10.0	10.40	12.9	11.3	12.18	17.5	16.6	17.13
08/16/99	11.3	10.0	10.65	13.5	11.5	12.48	17.2	16.1	16.65
08/17/99	11.5	10.2	10.84	14.3	11.8	12.99	17.0	15.2	16.37
08/18/99	12.1	10.9	11.43	15.1	12.4	13.68	16.6	15.0	15.69
08/19/99	12.1	10.7	11.40	14.3	12.5	13.46	17.2	15.0	16.23
08/20/99	11.7	10.2	11.00	14.4	11.8	13.16	16.7	15.5	16.03
08/21/99	11.7	10.7	11.18	13.6	12.5	12.96	16.5	15.4	15.88
08/22/99	10.9	10.0	10.51	12.3	11.2	11.88	15.3	14.8	15.04
08/23/99	10.9	10.2	10.53	12.6	11.3	11.93	15.7	14.7	15.16
08/24/99	10.4	9.8	10.19	11.8	11.0	11.37	15.4	14.4	14.78
08/25/99	10.0	8.8	9.41	11.7	10.2	10.85	14.7	14.1	14.46
08/26/99	8.6	7.7	8.23	10.2	9.0	9.45	14.0	13.0	13.65
08/27/99	8.4	7.7	8.05	9.5	8.7	9.08	13.0	12.8	12.95
08/28/99	9.6	8.4	8.99	10.3	9.2	9.76	13.2	12.0	12.58
08/29/99	8.8	7.8	8.42	9.7	9.1	9.36	12.7	12.0	12.38
08/30/99	8.0	6.9	7.48	9.5	7.7	8.73	12.7	11.6	12.18
08/31/99	8.2	7.1	7.68	9.9	8.2	9.03	12.8	11.8	12.26

Table 3. WATER TEMPERATURES ( C ) BIVOUAC and LEO CREEKS, AND MIDDLE RIVER 1998 - 1999.

DATE	BIVOUAC CREEK			LEO CREEK			MIDDLE RIVER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
09/01/99	8.0	6.3	7.26	9.4	7.3	8.39	12.4	11.5	11.92
09/02/99	7.7	6.1	6.99	9.2	7.1	8.26	12.6	11.4	11.98
09/03/99	8.0	6.5	7.34	9.5	7.4	8.51	13.0	11.6	12.24
09/04/99	9.0	7.6	8.29	10.6	8.9	9.69	13.3	12.2	12.65
09/05/99	9.2	8.6	8.85	10.6	9.6	10.05	12.5	11.8	12.23
09/06/99	8.8	8.2	8.48	9.8	9.2	9.54	12.0	11.4	11.73
09/07/99	8.0	6.9	7.62	9.7	8.0	8.91	12.2	10.9	11.58
09/08/99	8.4	7.7	8.03	9.5	8.7	9.13	12.0	11.3	11.74
09/09/99	8.4	7.7	8.13	10.0	9.0	9.43	12.2	11.3	11.59
09/10/99	7.7	6.9	7.23	9.2	8.0	8.63	11.5	10.5	11.13
09/11/99	7.3	6.0	6.66	8.7	7.0	7.86	12.0	10.9	11.37
09/12/99	7.1	6.0	6.53	8.5	6.9	7.71	12.0	11.2	



Table 4. WATER TEMPERATURES ( C ) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1996 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
04/30/96	1.9	0.7	1.15	1.0	0.0	0.28	2.1	0.2	1.05
05/01/96	1.9	0.9	1.31	0.7	0.0	0.25	2.1	0.5	1.15
05/02/96	3.1	1.0	1.85	1.2	0.0	0.37	2.6	0.9	1.60
05/03/96	4.0	1.0	2.03	2.2	0.0	0.64	3.6	0.7	1.93
05/04/96	3.3	1.2	1.99	1.4	0.0	0.46	3.3	0.4	1.74
05/05/96	3.6	1.4	2.10	1.2	0.0	0.48	2.6	0.7	1.52
05/06/96	2.9	1.2	1.84	1.2	0.2	0.55	2.2	0.4	1.24
05/07/96	4.0	1.2	1.92	3.3	0.4	1.41	3.4	0.0	1.43
05/08/96	2.9	1.2	1.78	2.2	1.4	1.81	2.2	0.2	1.20
05/09/96	3.6	1.0	2.02	3.4	1.4	2.19	2.6	0.4	1.45
05/10/96	4.9	1.2	2.23	4.7	1.9	3.13	4.5	0.4	2.09
05/11/96	5.2	1.2	2.41	5.2	2.6	3.86	5.4	0.5	2.68
05/12/96	4.1	1.4	2.53	4.5	3.8	4.16	3.4	1.5	2.50
05/13/96	4.1	1.7	2.86	4.3	3.8	4.15	3.6	1.9	2.58
05/14/96	4.9	2.1	3.03	4.9	3.8	4.31	4.3	1.7	2.67
05/15/96	4.3	1.7	2.84	4.7	4.0	4.28	3.3	1.4	2.30
05/16/96	4.9	1.5	2.90	5.2	4.0	4.37	4.1	0.9	2.40
05/17/96	5.0	1.9	3.09	5.6	4.0	4.55	5.0	0.9	2.75
05/18/96	4.3	2.4	3.33	4.7	4.3	4.46	3.1	1.9	2.52
05/19/96	3.6	2.4	3.10	4.5	4.1	4.24	2.9	1.5	2.23
05/20/96	4.3	2.4	3.26	4.7	4.1	4.27	4.1	1.2	2.49
05/21/96	4.9	2.7	3.66	5.2	4.3	4.67	4.5	1.5	2.75
05/22/96	4.7	2.9	3.72	6.1	4.9	5.35	4.7	1.7	2.99
05/23/96	5.0	3.3	4.08	6.7	5.4	5.99	4.7	1.5	3.09
05/24/96	5.0	3.6	4.18	6.9	6.0	6.42	4.1	1.5	2.85
05/25/96	4.9	3.6	4.23	7.3	6.1	6.57	3.8	1.7	2.59
05/26/96	4.1	3.4	3.80	6.3	5.2	5.66	3.4	1.4	2.35
05/27/96	4.9	3.1	3.85	5.6	4.7	5.12	4.3	1.4	2.81
05/28/96	4.9	3.1	4.00	5.8	4.9	5.14	4.9	1.7	3.09
05/29/96	5.0	3.3	4.06	6.0	5.0	5.40	4.9	1.9	3.34
05/30/96	4.7	3.4	4.10	6.0	5.4	5.69	4.1	2.2	3.18
05/31/96	5.4	3.4	4.20	6.9	5.8	6.13	5.4	1.9	3.41
06/01/96	4.7	3.8	4.27	6.1	4.0	4.72	4.1	2.2	3.06
06/02/96	4.5	3.6	4.13	4.5	3.6	4.14	4.5	2.2	3.06
06/03/96	4.1	3.3	3.65	4.1	2.9	3.49	4.0	2.1	2.90
06/04/96	4.0	3.1	3.61	4.0	2.4	3.21	4.0	2.1	2.91
06/05/96	4.0	2.7	3.44	4.1	2.4	3.13	4.3	2.2	3.17
06/06/96	4.1	2.9	3.49	4.3	2.6	3.10	4.5	2.6	3.26
06/07/96	4.1	2.9	3.49	4.3	2.4	3.19	4.5	2.4	3.34
06/08/96	3.8	2.4	3.09	3.8	2.1	3.03	4.1	2.1	3.23
06/09/96	4.3	2.7	3.42	4.3	2.2	3.24	4.7	2.2	3.48
06/10/96	4.3	3.6	4.05	4.1	2.7	3.33	4.3	2.9	3.50
06/11/96	4.3	3.8	4.10	4.1	2.4	3.32	4.3	2.4	3.45
06/12/96	4.9	4.0	4.29	4.9	2.4	3.64	5.4	2.6	3.98
06/13/96	4.9	4.0	4.26	4.7	2.7	3.69	5.4	2.9	4.08
06/14/96	4.7	3.4	4.03	4.7	2.4	3.61	5.4	2.4	4.00
06/15/96	4.1	3.4	3.82	4.1	3.1	3.74	4.5	3.3	3.94
06/16/96	4.7	3.3	3.88	4.9	2.7	3.78	5.4	2.9	4.06
06/17/96	4.5	3.4	3.99	4.7	3.1	3.88	4.9	3.1	4.08
06/18/96	5.2	3.6	4.33	5.4	3.6	4.34	6.3	3.8	4.99
06/19/96	5.0	4.0	4.46	5.8	3.8	4.56	6.3	4.0	5.17
06/20/96	4.9	4.0	4.48	5.2	3.4	4.27	6.1	3.6	4.87
06/21/96	5.2	4.1	4.57	5.2	3.6	4.42	5.6	4.0	4.71
06/22/96	5.0	4.1	4.55	5.0	3.4	4.16	5.6	3.6	4.61
06/23/96	5.0	4.1	4.49	5.2	3.4	4.23	6.1	3.8	4.92
06/24/96	5.6	4.0	4.68	6.0	3.4	4.53	6.7	3.8	5.25
06/25/96	5.2	4.1	4.67	5.6	3.4	4.52	6.7	4.0	5.32
06/26/96	5.0	4.1	4.60	5.8	3.8	4.73	7.1	4.3	5.59
06/27/96	5.2	4.3	4.68	5.8	3.8	4.72	6.3	4.1	5.40
06/28/96	5.0	4.3	4.66	5.4	4.0	4.71	6.5	4.3	5.38
06/29/96	5.4	4.1	4.67	5.0	4.0	4.53	6.3	4.3	5.43
06/30/96	5.6	4.3	4.85	5.6	4.5	4.95	7.7	4.9	6.21

Table 4. WATER TEMPERATURES ( C ) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1996 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
07/01/96	5.4	4.3	4.81	5.6	4.1	4.80	6.9	4.3	5.69
07/02/96	6.0	4.0	4.82	5.2	4.1	4.53	7.5	4.0	5.83
07/03/96	5.4	4.7	4.93	5.4	4.5	4.95	6.7	5.6	6.20
07/04/96	5.4	4.7	4.95	5.4	5.0	5.16	6.9	5.0	5.98
07/05/96	5.4	4.7	5.05	5.4	5.0	5.24	7.3	5.2	6.10
07/06/96	6.5	4.7	5.37	6.3	5.2	5.60	8.4	5.2	6.75
07/07/96	6.7	4.7	5.49	6.5	6.0	6.16	9.0	5.6	7.42
07/08/96	6.7	5.0	5.70	6.9	6.0	6.29	8.8	7.1	7.90
07/09/96	6.1	5.4	5.75	6.9	6.1	6.54	8.0	6.3	7.18
07/10/96	6.5	5.0	5.60	7.1	6.7	6.91	8.8	5.8	7.20
07/11/96	6.9	4.9	5.72	7.3	6.5	6.66	9.6	6.3	7.91
07/12/96	7.1	5.2	6.04	7.5	6.7	7.03	10.0	7.1	8.60
07/13/96	7.5	5.4	6.28	7.6	7.1	7.40	10.7	7.5	9.13
07/14/96	7.7	5.6	6.43	8.4	7.5	7.82	10.9	7.6	9.42
07/15/96	6.9	5.8	6.27	8.4	7.8	8.08	10.2	8.2	9.17
07/16/96	7.3	5.4	6.03	8.6	8.2	8.39	9.6	7.3	8.39
07/17/96	6.7	5.6	5.96	8.6	7.3	8.12	8.0	7.3	7.49
07/18/96	6.9	6.5	6.72	7.3	6.7	7.06	7.5	6.9	7.14
07/19/96	6.5	5.8	6.01	6.9	5.8	6.20	6.9	6.0	6.24
07/20/96	6.9	6.0	6.40	7.1	6.1	6.58	7.8	6.1	6.96
07/21/96	7.1	6.3	6.67	7.3	6.9	7.18	8.4	6.9	7.72
07/22/96	7.7	6.1	6.77	8.2	7.3	7.55	9.6	7.1	8.37
07/23/96	7.8	6.0	6.85	8.6	7.5	7.90	10.4	7.5	8.67
07/24/96	8.0	6.1	6.93	9.0	7.8	8.33	11.1	8.0	9.47
07/25/96	8.2	6.3	7.11	9.4	8.4	8.84	11.5	8.4	9.69
07/26/96	7.8	6.3	7.03	9.6	9.0	9.24	11.7	9.2	10.34
07/27/96	8.2	6.3	7.16	10.2	9.2	9.67	12.1	9.4	10.75
07/28/96	8.0	6.7	7.30	10.2	9.8	9.98	11.9	10.0	11.12
07/29/96	8.0	6.7	7.35	10.7	10.0	10.33	13.0	10.2	11.55
07/30/96	7.5	6.5	6.96	11.1	10.4	10.73	11.5	9.6	10.23
07/31/96	7.3	6.5	6.83	10.9	10.4	10.70	10.2	8.6	9.50
08/01/96	7.3	6.3	6.73	10.9	10.4	10.56	10.4	8.6	9.60
08/02/96	7.5	6.1	6.74	10.9	9.8	10.43	11.5	8.2	9.70
08/03/96	7.1	6.7	6.93	10.7	10.4	10.45	10.4	8.8	9.63
08/04/96	7.8	6.5	7.14	11.5	10.2	10.73	11.5	8.8	9.92
08/05/96	7.8	6.7	7.29	11.3	10.4	10.95	11.9	8.8	10.21
08/06/96	8.2	7.1	7.64	11.9	11.1	11.48	11.7	9.4	10.46
08/07/96	7.7	6.7	7.23	11.7	10.2	10.90	10.2	8.6	9.53
08/08/96	8.0	6.9	7.45	12.1	10.7	11.27	11.9	9.0	10.28
08/09/96	8.0	7.3	7.74	12.1	11.3	11.78	11.7	9.6	10.67
08/10/96	8.8	7.7	8.15	13.9	11.7	12.60	13.0	10.2	11.62
08/11/96	8.6	7.5	7.95	13.7	11.7	12.55	11.9	10.2	11.16
08/12/96	8.0	7.1	7.69	12.6	10.9	11.93	11.7	9.6	10.74
08/13/96	8.0	6.9	7.56	12.6	10.2	11.44	11.7	9.2	10.49
08/14/96	8.0	6.7	7.53	13.3	9.8	11.56	11.3	9.0	10.33
08/15/96	8.0	7.1	7.58	12.6	10.4	11.60	11.1	9.6	10.58
08/16/96	8.0	6.9	7.43	12.6	9.6	11.00	11.1	9.0	10.15
08/17/96	8.0	6.9	7.48	11.7	9.4	10.61	11.1	9.2	10.25
08/18/96	7.7	6.5	7.28	11.5	9.4	10.65	10.4	9.0	9.93
08/19/96	8.2	6.9	7.36	12.1	10.0	10.93	11.1	9.4	10.11
08/20/96	8.6	6.7	7.55	12.8	9.4	10.87	10.4	8.8	9.73
08/21/96	7.8	6.5	7.14	11.5	9.4	10.57	10.0	9.0	9.56
08/22/96	8.2	6.9	7.45				10.4	9.0	9.66
08/23/96	9.0	7.3	7.96				11.5	9.4	10.50
08/24/96	7.8	6.1	7.15	channel dry			11.7	8.4	10.22
08/25/96	8.0	6.1	7.12				12.1	9.2	10.75
08/26/96	8.4	6.1	7.22				12.4	9.4	11.06
08/27/96	7.8	6.1	7.06				11.7	9.6	10.73
08/28/96	8.0	6.7	7.42				11.7	10.2	11.11
08/29/96	8.8	6.9	7.64				12.6	10.7	11.54
08/30/96	8.8	7.8	8.37				11.5	10.7	11.06
08/31/96	9.0	7.8	8.47	12.1	10.9	11.62	11.1	9.2	10.05

Table 4. WATER TEMPERATURES ( C) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1996 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
09/01/96	8.6	7.3	7.85	11.9	10.7	11.10	10.0	8.8	9.32
09/02/96	7.3	6.0	6.79	10.4	8.2	9.38	9.8	7.5	8.53
09/03/96	7.7	6.7	7.15	11.1	9.8	10.42	9.8	8.4	8.83
09/04/96	7.1	5.4	6.35	9.8	6.9	8.50	9.2	6.9	8.00
09/05/96	7.1	5.4	6.17	8.8	6.7	8.01	8.0	6.3	7.34
09/06/96	7.1	6.0	6.46	9.2	7.5	8.33	8.4	6.9	7.61
09/07/96	7.1	6.1	6.53	9.0	7.7	8.34	7.8	7.1	7.45
09/08/96	7.3	6.1	6.61	9.8	7.7	8.69	8.2	6.9	7.52
09/09/96	7.3	6.3	6.66	10.2	8.4	9.19	8.6	7.3	7.85
09/10/96	7.1	5.6	6.31	10.2	7.1	8.55	9.0	6.3	7.43
09/11/96	7.1	5.6	6.41	11.1	7.3	9.02	9.4	6.5	7.73
09/12/96	7.5	6.1	6.75	11.5	8.6	9.85	9.2	7.3	8.17
09/13/96	7.1	6.1	6.57	10.2	8.6	9.35	8.2	7.5	7.87
09/14/96	7.1	6.3	6.71	10.4	9.2	9.68	8.8	7.8	8.03
09/15/96	6.9	6.1	6.52	9.8	7.8	8.73	8.6	7.1	7.68
09/16/96	6.7	5.6	6.17	8.6	6.9	7.70	8.4	6.5	7.29
09/17/96	6.3	4.9	5.58	8.0	5.0	6.45	7.5	5.4	6.39
09/18/96	6.9	6.1	6.43	9.6	7.5	8.35	8.0	6.5	7.08
09/19/96	6.5	5.2	5.95	8.0	6.0	6.91	7.3	5.6	6.45
09/20/96	6.1	4.9	5.55				6.3	5.0	5.80
09/21/96	5.6	4.3	4.84				5.2	4.0	4.64
09/22/96	5.2	3.8	4.48					4.1	
09/23/96	5.4	3.8	4.43						
09/24/96	5.6	4.0	4.70						
09/25/96	5.8	4.9	5.30						
09/26/96	6.1	5.4	5.68						
09/27/96	6.7	5.6	5.86						
09/28/96	6.3	5.6	5.83						
09/29/96	5.4	4.5	4.95						
09/30/96	4.7	4.3	4.43						
10/01/96	4.9	4.1	4.37						
10/02/96	4.7	4.1	4.40						
10/03/96	5.6	4.5	4.95						
10/04/96	5.4	4.7	5.08						
10/05/96	5.2	4.3	4.72						
10/06/96	5.4	4.3	4.85						
10/07/96	6.0	5.0	5.29						
10/08/96	5.8	5.2	5.41						
10/09/96	6.0	5.2	5.56						
10/10/96	6.3	5.4	5.85						
10/11/96	6.0	4.7	5.12						
10/12/96	4.9	4.3	4.66						
10/13/96	5.8	4.7	5.10						
10/14/96	4.9	4.3	4.53						
10/15/96	4.3	3.4	3.99						
10/16/96	4.5	4.1	4.22						
10/17/96	4.3	4.0	4.12						
10/18/96	4.3	4.0	4.08						
10/19/96	4.3	4.0	4.13						
10/20/96	4.5	4.0	4.12						
10/21/96	4.1	4.0	4.05						
10/22/96	4.3	3.8	4.04						
10/23/96	4.0	3.8	3.94						
10/24/96	4.1	3.8	3.93						
10/25/96	4.1	4.0	4.02						
10/26/96	4.1	3.4	3.88						
10/27/96	4.1	3.8	3.94						
10/28/96	4.0	3.6	3.81						
10/29/96	4.0	3.4	3.72						
10/30/96	4.1	3.4	3.57						
10/31/96	4.0	3.3	3.45						

Table 4. WATER TEMPERATURES ( C ) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1996 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
11/01/96	4.0	3.3	3.55						
11/02/96	4.0	3.4	3.58						
11/03/96	3.4	3.3	3.35						
11/04/96	3.4	3.1	3.33						
11/05/96	4.1	3.3	3.52						
11/06/96	3.8	3.3	3.45						
11/07/96	3.6	3.1	3.33						
11/08/96	3.4	3.1	3.22						
11/09/96	3.1	2.9	3.03						
11/10/96	2.9	2.7	2.78						
11/11/96	2.9	2.7	2.73						
11/12/96	2.7	2.4	2.65						
11/13/96	2.7	2.2	2.43						
11/14/96	3.1	2.7	2.88						
11/15/96	2.9	2.7	2.75						
11/16/96	2.7	2.1	2.33						
11/17/96	2.4	2.1	2.26						
11/18/96	2.6	2.4	2.51						
11/19/96	2.6	2.2	2.46						
11/20/96	2.6	2.4	2.55						
11/21/96	2.6	2.6	2.60						
11/22/96	2.6	2.4	2.55						
11/23/96	2.4	2.1	2.20						
11/24/96	2.1	1.9	1.94						
11/25/96	1.9	1.9	1.90						
11/26/96	2.1	1.9	1.93						
11/27/96	1.9	1.9	1.90						
11/28/96	1.9	1.9	1.90						
11/29/96	2.1	1.9	2.07						
11/30/96	2.2	2.1	2.13						
12/01/96	2.4	2.2	2.21						
12/02/96	2.4	2.2	2.28						
12/03/96	2.2	2.1	2.18						
12/04/96	2.2	2.1	2.17						
12/05/96	2.2	2.1	2.17						
12/06/96	2.2	2.1	2.19						
12/07/96	2.2	2.1	2.16						
12/08/96	2.2	2.2	2.20						
12/09/96	2.1	0.9	1.70						
12/10/96	2.2	1.9	2.10						
12/11/96	2.2	2.2	2.20						
12/12/96	2.2	2.2	2.20						
12/13/96	2.2	1.9	2.16						
12/14/96	2.2	0.7	1.59						
12/15/96	2.2	1.7	2.11						
12/16/96	2.2	0.5	0.96						
12/17/96	0.9	0.5	0.84						
12/18/96	1.5	0.9	1.19						
12/19/96	2.1	1.5	1.73						
12/20/96	2.1	1.9	2.09						
12/21/96	2.1	1.9	2.03						
12/22/96	1.9	1.9	1.90						
12/23/96	1.9	1.7	1.86						
12/24/96	1.7	1.7	1.70						
12/25/96	1.7	1.7	1.70						
12/26/96	1.7	1.5	1.57						
12/27/96	1.5	1.4	1.45						
12/28/96	1.4	1.4	1.40						
12/29/96	1.4	1.4	1.40						
12/30/96	1.4	1.0	1.28						
12/31/96	1.2	1.0	1.10						

Table 4. WATER TEMPERATURES ( C) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1996 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
01/01/97	1.2	1.2	1.20						
01/02/97	1.4	1.2	1.32						
01/03/97	1.4	1.4	1.40						
01/04/97	1.4	1.4	1.40						
01/05/97	1.4	1.4	1.40						
01/06/97	1.4	1.4	1.40						
01/07/97	1.4	1.2	1.38						
01/08/97	1.2	1.2	1.20						
01/09/97	1.2	1.2	1.20						
01/10/97	1.2	1.2	1.20						
01/11/97	1.2	1.2	1.20						
01/12/97	1.4	1.2	1.28						
01/13/97	1.4	1.4	1.40						
01/14/97	1.4	1.4	1.40						
01/15/97	1.4	1.4	1.40						
01/16/97	1.4	1.4	1.40						
01/17/97	1.5	1.4	1.40						
01/18/97	1.4	1.4	1.40						
01/19/97	1.5	1.4	1.48						
01/20/97	1.5	1.5	1.50						
01/21/97	1.5	1.5	1.50						
01/22/97	1.5	1.5	1.50						
01/23/97	1.7	1.5	1.51						
01/24/97	1.7	1.5	1.58						
01/25/97	1.5	1.5	1.50						
01/26/97	1.5	1.5	1.50						
01/27/97	1.5	1.5	1.50						
01/28/97	1.5	1.5	1.50						
01/29/97	1.5	1.5	1.50						
01/30/97	1.5	1.4	1.42						
01/31/97	1.5	1.4	1.43						
02/01/97	1.5	1.4	1.46						
02/02/97	1.5	1.4	1.43						
02/03/97	1.5	1.4	1.40						
02/04/97	1.4	1.4	1.40						
02/05/97	1.4	1.4	1.40						
02/06/97	1.4	1.4	1.40						
02/07/97	1.4	1.4	1.40						
02/08/97	1.4	1.4	1.40						
02/09/97	1.4	1.4	1.40						
02/10/97	1.4	1.4	1.40						
02/11/97	1.4	1.4	1.40						
02/12/97	1.4	1.4	1.40						
02/13/97	1.4	1.4	1.40						
02/14/97	1.4	1.4	1.40						
02/15/97	1.4	1.4	1.40						
02/16/97	1.4	1.4	1.40						
02/17/97	1.4	1.4	1.40						
02/18/97	1.4	1.4	1.40						
02/19/97	1.4	0.7	1.35						
02/20/97	1.4	1.4	1.40						
02/21/97	1.4	1.4	1.40						
02/22/97	1.4	1.4	1.40						
02/23/97	1.4	1.4	1.40						
02/24/97	1.4	1.4	1.40						
02/25/97	1.4	1.4	1.40						
02/26/97	1.4	1.4	1.40						
02/27/97	1.4	1.4	1.40						
02/28/97	1.4	1.4	1.40						

Table 4. WATER TEMPERATURES ( C) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1996 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
03/01/97	1.4	1.4	1.40						
03/02/97	1.4	1.4	1.40						
03/03/97	1.4	1.4	1.40						
03/04/97	1.4	1.4	1.40						
03/05/97	1.4	1.2	1.38						
03/06/97	1.4	1.2	1.32						
03/07/97	1.4	1.2	1.28						
03/08/97	1.4	1.2	1.37						
03/09/97	1.4	1.4	1.40						
03/10/97	1.4	1.2	1.37						
03/11/97	1.4	1.2	1.21						
03/12/97	1.4	1.2	1.28						
03/13/97	1.4	1.2	1.28						
03/14/97	1.2	1.2	1.20						
03/15/97	1.2	1.2	1.20						
03/16/97	1.2	1.2	1.20						
03/17/97	1.2	1.2	1.20						
03/18/97	1.2	1.2	1.20						
03/19/97	1.2	1.2	1.20						
03/20/97	1.2	1.2	1.20						
03/21/97	1.2	1.2	1.20						
03/22/97	1.2	1.2	1.20						
03/23/97	1.2	1.2	1.20						
03/24/97	1.2	1.2	1.20						
03/25/97	1.2	1.2	1.20						
03/26/97	1.2	1.2	1.20						
03/27/97	1.2	1.2	1.20						
03/28/97	1.2	1.2	1.20						
03/29/97	1.2	1.2	1.20						
03/30/97	1.2	1.2	1.20						
03/31/97	1.2	1.2	1.20						
04/01/97	1.2	1.2	1.20						
04/02/97	1.2	1.2	1.20						
04/03/97	1.2	1.2	1.20						
04/04/97	1.2	1.2	1.20						
04/05/97	1.2	1.2	1.20						
04/06/97	1.2	1.2	1.20						
04/07/97	1.2	1.2	1.20						
04/08/97	1.2	1.2	1.20						
04/09/97	1.2	1.2	1.20						
04/10/97	1.2	1.2	1.20						
04/11/97	1.2	1.2	1.20						
04/12/97	1.2	1.2	1.20						
04/13/97	1.2	1.0	1.18						
04/14/97	1.2	1.2	1.20						
04/15/97	1.2	1.2	1.20						
04/16/97	1.2	1.0	1.07						
04/17/97	1.2	1.0	1.04						
04/18/97	1.2	1.0	1.10						
04/19/97	1.2	1.0	1.19						
04/20/97	1.2	1.0	1.13						
04/21/97	1.2	1.0	1.11						
04/22/97	1.2	1.2	1.20						
04/23/97	1.2	1.2	1.20						
04/24/97	1.2	1.0	1.16						
04/25/97	1.2	1.0	1.01						
04/26/97	1.0	0.4	0.73						
04/27/97	0.9	0.4	0.53						
04/28/97	1.0	0.5	0.83						
04/29/97	1.4	0.9	1.10						
04/30/97	1.5	1.0	1.17						



Table 4. WATER TEMPERATURES (°C) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1996 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
05/01/97	1.9	1.0	1.26						
05/02/97	2.2	1.0	1.32						
05/03/97	2.1	0.9	1.24						
05/04/97	1.9	0.9	1.30						
05/05/97	2.2	0.9	1.32				4.0		
05/06/97	3.6	0.9	1.71				3.6	0.7	1.78
05/07/97	3.8	1.0	2.12				4.5	0.5	2.10
05/08/97	3.8	1.4	2.45		1.5		4.5	0.7	2.22
05/09/97	4.7	1.5	2.90	4.3	2.4	3.25	4.9	1.0	2.54
05/10/97	4.7	1.9	3.06	5.0	3.1	3.98	4.9	0.9	2.56
05/11/97	4.7	1.9	3.12	5.0	3.4	4.23	5.0	1.0	2.60
05/12/97	4.5	1.9	2.83	5.2	3.6	4.27	4.5	0.9	2.16
05/13/97	3.8	0.9	1.95	5.0	4.0	4.27	4.1	1.0	2.15
05/14/97	3.6	1.0	1.98	4.7	4.0	4.33	3.8	1.2	2.18
05/15/97	3.1	1.4	1.99	4.3	3.8	4.07	3.1	1.5	2.12
05/16/97	2.6	1.5	1.91	3.8	1.4	2.18	2.6	1.5	1.86
05/17/97	3.6	1.5	2.37	4.1	1.4	2.53	4.1	1.4	2.55
05/18/97	3.8	1.9	2.71	4.7	3.6	4.06	4.0	1.7	2.73
05/19/97	3.4	2.4	2.84	4.3	4.0	4.12	3.1	2.2	2.60
05/20/97	4.3	2.2	3.23	4.5	4.0	4.20	4.3	2.1	3.02
05/21/97	3.8	2.7	3.33	4.3	4.0	4.20	3.3	2.1	2.75
05/22/97	4.9	2.7	3.74	4.5	3.4	3.99	5.4	1.7	3.43
05/23/97	5.2	3.1	4.15	4.7	3.8	4.09	6.1	2.2	4.07
05/24/97	5.4	3.8	4.40	5.0	3.6	4.22	6.5	2.9	4.46
05/25/97	4.9	3.6	4.34	4.9	2.7	3.75	5.2	2.9	4.05
05/26/97	4.9	3.8	4.36	5.0	2.2	3.53	5.0	2.6	3.80
05/27/97	5.0	4.0	4.43	4.9	2.6	3.59	4.9	2.9	3.61
05/28/97	4.9	4.0	4.30	4.7	2.6	3.49	4.5	2.9	3.65
05/29/97	4.5	2.9	3.95	4.0	2.6	3.17	4.0	2.7	3.38
05/30/97	4.3	2.4	3.24	4.5	2.2	3.20	4.9	2.6	3.65
05/31/97	3.4	2.7	3.08	3.6	2.6	3.07	4.0	3.1	3.47
06/01/97	4.1	2.7	3.46	4.1	2.6	3.24	4.5	2.9	3.60
06/02/97	4.9	3.8	4.41	5.0	2.7	3.59	5.6	3.1	4.16
06/03/97	5.0	4.0	4.54	5.6	2.7	3.93	5.6	3.3	4.38
06/04/97	4.7	3.4	3.84	4.0	3.3	3.56	4.5	3.6	3.98
06/05/97	4.7	3.4	4.06	4.9	2.9	3.75	5.2	3.3	4.12
06/06/97	4.5	4.0	4.31	4.5	2.9	3.67	4.9	3.4	4.14
06/07/97	4.7	4.1	4.33	4.7	2.9	3.78	5.0	3.4	4.34
06/08/97	4.9	4.1	4.38	4.7	2.9	3.67	5.4	3.4	4.44
06/09/97	5.2	4.0	4.52	5.4	2.9	4.08	5.4	3.6	4.62
06/10/97	5.6	4.0	4.70	6.3	2.9	4.58	6.5	3.6	5.11
06/11/97	5.4	4.3	4.87	6.1	4.0	5.03	6.3	4.5	5.53
06/12/97	5.2	4.3	4.80	6.0	4.0	4.97	6.0	4.3	5.24
06/13/97	5.6	4.5	4.90	6.1	4.1	5.06	6.3	4.7	5.48
06/14/97	5.0	4.5	4.80	6.0	4.0	4.99	6.3	4.5	5.52
06/15/97	5.4	4.5	4.88	6.3	4.7	5.32	6.5	5.2	5.86
06/16/97	5.8	4.7	5.12	6.7	4.1	5.25	6.9	4.7	5.88
06/17/97	5.6	4.7	5.13	6.9	4.9	5.80	7.7	5.6	6.61
06/18/97	5.8	4.7	5.22	6.7	4.5	5.61	7.5	5.2	6.33
06/19/97	6.1	4.7	5.30	6.9	4.7	5.75	7.7	5.2	6.56
06/20/97	5.6	4.9	5.20	6.1	5.0	5.61	6.9	5.8	6.33
06/21/97	5.8	4.9	5.24	6.1	5.2	5.61	6.5	5.8	6.20
06/22/97	6.1	5.0	5.58	7.5	5.2	6.28	8.2	5.8	7.05
06/23/97	6.7	4.9	5.72	8.2	5.6	6.88	9.2	6.3	7.83
06/24/97	6.3	5.0	5.68	8.0	6.1	7.15	8.8	7.1	8.15
06/25/97	6.9	5.2	5.89	8.8	6.3	7.47	10.0	7.3	8.59
06/26/97	6.1	5.4	5.77	8.4	7.1	7.55	9.2	8.0	8.45
06/27/97	5.8	5.2	5.53	7.3	6.3	6.88	7.8	7.1	7.59
06/28/97	6.9	5.2	5.79	7.3	6.5	6.90	9.8	7.3	8.53
06/29/97	6.3	5.0	5.69	7.5	6.9	7.22	10.4	7.5	8.95
06/30/97	6.1	5.2	5.69	7.8	7.3	7.45	9.6	8.2	8.67

Table 4. WATER TEMPERATURES ( C) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1996 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
07/01/97	6.7	5.4	6.07	7.8	7.1	7.58	10.0	7.8	8.97
07/02/97	6.3	5.2	5.75	7.8	7.3	7.67	10.2	7.8	9.18
07/03/97	6.9	4.9	5.84	8.4	6.9	7.75	11.9	7.7	9.64
07/04/97	7.1	5.2	6.10	8.8	7.7	8.32	12.1	8.2	10.25
07/05/97	7.5	6.0	6.49	9.6	8.6	9.02	13.5	9.6	11.42
07/06/97	7.5	6.3	7.00	9.8	9.2	9.52	11.9	9.8	10.75
07/07/97	6.3	5.2	5.92	9.8	9.4	9.56	9.8	8.0	9.18
07/08/97	6.9	5.8	6.31	9.8	9.4	9.57	11.3	8.8	9.88
07/09/97	7.1	5.4	6.23	10.2	9.6	9.79	11.5	8.4	9.86
07/10/97	7.3	5.8	6.42	10.2	9.8	10.00	12.1	8.4	10.28
07/11/97	7.7	6.1	6.68	10.9	10.0	10.41	13.7	9.2	11.47
07/12/97	7.5	6.5	6.87	11.1	10.7	10.90	13.5	10.7	12.19
07/13/97	7.3	6.5	6.85	11.7	11.1	11.35	13.0	11.3	12.17
07/14/97	7.7	6.5	6.84	11.9	11.5	11.73	13.3	11.1	12.26
07/15/97	8.2	6.5	7.08	11.9	11.7	11.78	12.8	10.9	12.06
07/16/97	8.4	6.7	7.14	12.1	11.5	11.86	13.9	11.1	12.64
07/17/97	7.7	6.1	6.83	12.1	10.9	11.49	14.4	10.7	12.78
07/18/97	8.0	6.3	7.00	12.1	11.3	11.86	13.7	11.5	12.61
07/19/97	7.7	6.5	7.03	12.4	11.7	12.03	14.9	12.1	13.49
07/20/97	7.5	6.5	7.05	12.6	12.1	12.44	14.4	13.0	14.03
07/21/97	8.2	6.7	7.25	12.6	12.1	12.41	14.4	13.0	13.84
07/22/97	8.4	6.7	7.39	12.8	12.1	12.52	15.1	12.8	14.01
07/23/97	8.0	6.7	7.27	12.6	11.7	12.07	14.4	12.1	13.39
07/24/97	7.8	6.5	7.10	12.1	11.1	11.63	14.9	11.7	13.35
07/25/97	8.6	6.7	7.35	13.0	11.5	12.11			
07/26/97	8.4	6.7	7.39	13.5	12.1	12.83			
07/27/97	8.0	6.9	7.38	14.2	12.8	13.48			
07/28/97	8.6	6.9	7.52	14.9	13.3	13.95			
07/29/97	8.4	7.1	7.56	15.1	13.7	14.35			
07/30/97	8.4	7.3	7.89	15.1	13.7	14.40			
07/31/97	8.0	6.5	7.28	14.2	11.7	12.76			
08/01/97	8.0	6.9	7.40	13.9	11.3	12.58			
08/02/97	8.2	6.5	7.31	13.9	10.9	12.40			
08/03/97	8.6	6.9	7.63	14.9	11.7	13.28	Dry		
08/04/97	8.8	7.5	7.87						
08/05/97	9.8	7.3	8.19						
08/06/97	9.6	7.3	8.19						
08/07/97	8.8	7.7	8.04						
08/08/97	8.6	7.3	7.91						
08/09/97	9.8	7.1	8.02	Dry					
08/10/97	10.0	7.1	8.14						
08/11/97	9.8	7.5	8.36						
08/12/97	10.0	7.7	8.59						
08/13/97	11.5	8.4	9.47						
08/14/97	10.7	8.4	9.04						
08/15/97	9.2	7.8	8.38						
08/16/97	9.6	7.1	8.00						
08/17/97	9.4	6.9	8.10						
08/18/97	10.4	7.8	8.81						
08/19/97	10.9	7.3	8.78						
08/20/97	13.7	6.9	9.70						
08/21/97	11.7	7.7	9.05						
08/22/97	8.6	7.7	7.91	16.3	13.3	14.43			
08/23/97	8.4	7.5	7.86	16.6	11.7	13.64			
08/24/97	8.2	7.7	7.86	14.9	11.9	13.15			
08/25/97	8.6	7.7	7.91	15.3	11.1	13.10			
08/26/97	8.6	7.7	8.07	15.8	12.4	13.92	16.3	14.4	15.55
08/27/97	9.2	7.8	8.27	13.9	12.4	13.08	16.1	13.9	14.54
08/28/97	9.0	7.5	8.09	13.0	10.7	11.92	13.7	12.1	13.06
08/29/97	8.6	7.7	8.04	12.6	11.1	11.80	13.5	12.8	13.20
08/30/97	8.4	7.3	7.77	13.3	9.2	11.20	13.0	11.3	12.29
08/31/97	8.4	7.3	7.75	14.2	9.6	11.68	13.7	11.5	12.78

Table 4. WATER TEMPERATURES ( C) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1996 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
09/01/97	6.2	6.9	7.54	13.7	8.4	10.83	13.5	10.7	12.22
09/02/97	8.4	7.5	7.83	14.6	11.3	12.44	14.6	12.6	13.56
09/03/97	8.0	7.1	7.58	14.4	8.4	10.99	14.2	11.7	13.26
09/04/97	8.2	7.3	7.80	13.0	8.6	10.51	13.9	11.7	12.68
09/05/97	7.8	7.1	7.40	9.4	7.8	8.70	12.4	10.4	10.94
09/06/97	7.8	7.3	7.54	9.6	8.2	8.85	10.4	9.4	10.00
09/07/97	7.7	6.3	7.09	9.6	7.7	8.64	10.7	9.2	10.03
09/08/97	7.8	6.9	7.34	10.4	8.8	9.48	11.3	10.0	10.78
09/09/97	7.8	7.1	7.45	11.3	9.2	10.30	12.6	10.9	11.74
09/10/97	8.0	7.3	7.56	11.5	9.6	10.75	12.4	11.7	12.17
09/11/97	7.7	6.5	7.20	10.7	7.8	9.19	12.1	10.4	11.35
09/12/97	7.7	6.5	7.08	10.0	7.3	8.59	11.1	9.2	10.09
09/13/97	7.8	6.9	7.32	10.9	8.0	9.33	10.7	9.6	10.24
09/14/97	7.5	6.7	7.08	9.4	7.5	8.39	10.4	8.6	9.28
09/15/97	7.3	6.5	6.92	8.2	6.9	7.55	8.6	7.5	7.80
09/16/97	7.5	6.5	7.03	9.0	7.1	7.88	8.0	6.9	7.48
09/17/97	7.1	6.3	6.77	8.0	6.7	7.42	8.0	7.3	7.72
09/18/97	6.9	5.0	6.03	7.1	4.9	5.96	7.7	6.0	6.88
09/19/97	7.1	5.6	6.37	7.8	5.6	6.75		6.0	
09/20/97	7.1	6.0	6.62		6.0				
09/21/97	7.3	6.9	7.08						
09/22/97	7.3	6.7	7.03						
09/23/97	7.7	7.1	7.33						
09/24/97	7.5	7.1	7.25						
09/25/97	7.5	6.9	7.19						
09/26/97	7.3	7.3	7.30						
09/27/97	7.5	7.1	7.24						
09/28/97	7.5	7.1	7.23						
09/29/97	7.1	6.5	6.83						
09/30/97	6.9	6.7	6.81						
10/01/97	6.7	6.5	6.62						
10/02/97	6.5	6.0	6.36						
10/03/97	6.0	5.8	5.94						
10/04/97	6.0	5.8	5.86						
10/05/97	6.0	5.6	5.78						
10/06/97	5.8	5.6	5.72						
10/07/97	5.8	5.6	5.61						
10/08/97	5.6	5.2	5.43						
10/09/97	5.2	5.0	5.03						
10/10/97	5.0	4.9	4.98						
10/11/97	5.0	4.9	4.92						
10/12/97	4.9	4.7	4.79						
10/13/97	4.7	4.7	4.70						
10/14/97	4.9	4.5	4.69						
10/15/97	4.7	4.5	4.58						
10/16/97	4.5	4.3	4.47						
10/17/97	4.5	4.3	4.42						
10/18/97	4.5	4.3	4.42						
10/19/97	4.5	4.3	4.33						
10/20/97	4.5	4.3	4.31						
10/21/97	4.5	4.3	4.36						
10/22/97	4.5	4.5	4.50						
10/23/97	4.5	4.3	4.40						
10/24/97	4.3	4.3	4.30						
10/25/97	4.3	4.1	4.29						
10/26/97	4.3	4.1	4.17						
10/27/97	4.1	4.1	4.10						
10/28/97	4.1	4.1	4.10						
10/29/97	4.3	4.1	4.11						
10/30/97	4.3	4.1	4.20						
10/31/97	4.3	4.1	4.23						

Table 4. WATER TEMPERATURES ( C) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1996 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
11/01/97	4.3	4.0	4.10						
11/02/97	4.0	4.0	4.00						
11/03/97	4.0	4.0	4.00						
11/04/97	4.0	4.0	4.00						
11/05/97	4.1	4.0	4.02						
11/06/97	4.0	3.8	3.88						
11/07/97	3.8	3.8	3.80						
11/08/97	3.8	3.6	3.65						
11/09/97	3.6	3.6	3.60						
11/10/97	3.6	3.6	3.60						
11/11/97	3.6	3.4	3.41						
11/12/97	3.4	3.4	3.40						
11/13/97	3.4	3.4	3.40						
11/14/97	3.4	3.3	3.34						
11/15/97	3.4	3.3	3.30						
11/16/97	3.3	3.3	3.30						
11/17/97	3.3	3.1	3.18						
11/18/97	3.1	3.1	3.10						
11/19/97	3.1	2.9	2.98						
11/20/97	2.9	2.9	2.90						
11/21/97	2.9	2.9	2.90						
11/22/97	2.9	2.7	2.73						
11/23/97	2.7	2.7	2.70						
11/24/97	2.7	2.7	2.70						
11/25/97	2.7	2.7	2.70						
11/26/97	2.7	2.6	2.61						
11/27/97	2.6	2.6	2.60						
11/28/97	2.6	2.6	2.60						
11/29/97	2.6	2.6	2.60						
11/30/97	2.6	2.6	2.60						
12/01/97	2.6	2.4	2.57						
12/02/97	2.6	2.6	2.60						
12/03/97	2.6	2.4	2.41						
12/04/97	2.6	2.4	2.42						
12/05/97	2.4	2.4	2.40						
12/06/97	2.4	2.4	2.40						
12/07/97	2.4	2.2	2.34						
12/08/97	2.4	2.2	2.38						
12/09/97	2.2	2.2	2.20						
12/10/97	2.2	2.1	2.13						
12/11/97	2.2	2.2	2.20						
12/12/97	2.2	2.2	2.20						
12/13/97	2.2	2.2	2.20						
12/14/97	2.2	2.2	2.20						
12/15/97	2.2	2.2	2.20						
12/16/97	2.2	2.2	2.20						
12/17/97	2.2	2.2	2.20						
12/18/97	2.2	2.2	2.20						
12/19/97	2.2	2.2	2.20						
12/20/97	2.1	2.1	2.10						
12/21/97	2.1	2.1	2.10						
12/22/97	2.1	2.1	2.10						
12/23/97	2.1	2.1	2.10						
12/24/97	2.1	2.1	2.10						
12/25/97	2.1	1.9	2.03						
12/26/97	2.1	2.1	2.10						
12/27/97	2.1	2.1	2.10						
12/28/97	2.1	1.9	1.99						
12/29/97	1.9	1.9	1.90						
12/30/97	1.9	1.9	1.90						
12/31/97	1.9	1.9	1.90						

Table 4. WATER TEMPERATURES ( C) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1998 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
01/01/98	1.9	1.9	1.90						
01/02/98	1.9	1.9	1.90						
01/03/98	1.9	1.7	1.87						
01/04/98	1.7	1.7	1.70						
01/05/98	1.7	1.7	1.70						
01/06/98	1.7	1.7	1.70						
01/07/98	1.7	1.7	1.70						
01/08/98	1.7	1.7	1.70						
01/09/98	1.7	1.5	1.52						
01/10/98	1.5	1.5	1.50						
01/11/98	1.5	1.5	1.50						
01/12/98	1.5	1.5	1.50						
01/13/98	1.5	1.5	1.50						
01/14/98	1.5	1.5	1.50						
01/15/98	1.5	1.5	1.50						
01/16/98	1.5	1.5	1.50						
01/17/98	1.5	1.4	1.43						
01/18/98	1.4	1.4	1.40						
01/19/98	1.4	1.4	1.40						
01/20/98	1.4	1.4	1.40						
01/21/98	1.4	1.4	1.40						
01/22/98	1.4	1.4	1.40						
01/23/98	1.4	1.4	1.40						
01/24/98	1.4	1.4	1.40						
01/25/98	1.4	1.2	1.24						
01/26/98	1.2	1.2	1.20						
01/27/98	1.2	1.2	1.20						
01/28/98	1.2	1.2	1.20						
01/29/98	1.2	1.2	1.20						
01/30/98	1.2	1.2	1.20						
01/31/98	1.2	1.2	1.20						
02/01/98	1.2	1.2	1.20						
02/02/98	1.2	1.2	1.20						
02/03/98	1.2	1.2	1.20						
02/04/98	1.2	1.2	1.20						
02/05/98	1.2	1.2	1.20						
02/06/98	1.2	1.2	1.20						
02/07/98	1.2	1.2	1.20						
02/08/98	1.2	1.2	1.20						
02/09/98	1.2	1.2	1.20						
02/10/98	1.2	1.2	1.20						
02/11/98	1.2	1.2	1.20						
02/12/98	1.2	1.2	1.20						
02/13/98	1.2	1.2	1.20						
02/14/98	1.2	1.2	1.20						
02/15/98	1.2	1.2	1.20						
02/16/98	1.2	1.2	1.20						
02/17/98	1.2	1.2	1.20						
02/18/98	1.2	1.2	1.20						
02/19/98	1.2	1.2	1.20						
02/20/98	1.2	1.2	1.20						
02/21/98	1.2	1.2	1.20						
02/22/98	1.2	1.2	1.20						
02/23/98	1.2	1.0	1.13						
02/24/98	1.0	1.0	1.00						
02/25/98	1.2	1.0	1.16						
02/26/98	1.2	1.0	1.17						
02/27/98	1.2	1.0	1.15						
02/28/98	1.2	1.2	1.20						

Table 4. WATER TEMPERATURES ( C ) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1998 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
03/01/98	1.2	1.2	1.20						
03/02/98	1.2	1.2	1.20						
03/03/98	1.2	1.2	1.20						
03/04/98	1.2	1.0	1.08						
03/05/98	1.0	1.0	1.00						
03/06/98	1.0	1.0	1.00						
03/07/98	1.0	1.0	1.00						
03/08/98	1.0	1.0	1.00						
03/09/98	1.0	1.0	1.00						
03/10/98	1.0	1.0	1.00						
03/11/98	1.0	1.0	1.00						
03/12/98	1.0	1.0	1.00						
03/13/98	1.0	0.9	0.99						
03/14/98	1.0	0.9	0.95						
03/15/98	1.0	1.0	1.00						
03/16/98	1.0	1.0	1.00						
03/17/98	1.0	1.0	1.00						
03/18/98	1.0	1.0	1.00						
03/19/98	1.0	1.0	1.00						
03/20/98	1.0	1.0	1.00						
03/21/98	1.0	1.0	1.00						
03/22/98	1.0	1.0	1.00						
03/23/98	1.2	1.0	1.05						
03/24/98	1.2	1.0	1.02						
03/25/98	1.2	1.0	1.08						
03/26/98	1.2	1.0	1.05						
03/27/98	1.0	1.0	1.00						
03/28/98	1.0	1.0	1.00						
03/29/98	1.2	1.0	1.08						
03/30/98	1.2	1.0	1.11						
03/31/98	1.2	1.0	1.07						
04/01/98	1.2	1.0	1.05						
04/02/98	1.2	1.0	1.07						
04/03/98	1.2	1.0	1.07						
04/04/98	1.2	1.0	1.08						
04/05/98	1.4	1.0	1.12						
04/06/98	1.4	1.0	1.18						
04/07/98	1.2	1.0	1.14						
04/08/98	1.2	1.0	1.10						
04/09/98	1.2	1.0	1.09						
04/10/98	1.2	1.0	1.08						
04/11/98	1.2	1.0	1.08						
04/12/98	1.2	1.0	1.08						
04/13/98	1.4	1.0	1.18						
04/14/98	1.4	1.0	1.18						
04/15/98	1.4	1.0	1.20						
04/16/98	1.4	1.2	1.28						
04/17/98	1.4	1.2	1.26						
04/18/98	1.4	1.2	1.26				2.2		
04/19/98	1.5	1.2	1.28				2.7	0.4	1.23
04/20/98	1.2	1.2	1.20				2.2	0.0	1.01
04/21/98	1.5	1.2	1.29				3.3	0.4	1.36
04/22/98	1.5	1.2	1.31				3.1	0.4	1.52
04/23/98	1.4	1.2	1.33				2.4	0.7	1.37
04/24/98	1.9	1.2	1.51				3.3	0.5	1.53
04/25/98	1.7	1.4	1.54				2.2	0.4	1.22
04/26/98	1.9	1.4	1.57				2.6	0.9	1.60
04/27/98	1.9	1.4	1.65				2.6	0.7	1.57
04/28/98	1.9	1.4	1.59				2.4	0.9	1.53
04/29/98	2.2	1.5	1.82	0.5	0.0	0.13	3.4	0.5	1.76
04/30/98	2.2	1.5	1.88	2.7	0.0	0.88	4.3	0.5	1.95

Table 4. WATER TEMPERATURES ( C ) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1996 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
05/01/98	2.6	1.9	2.23	5.4	0.0	1.79	4.0	0.5	1.87
05/02/98	2.6	1.9	2.32	5.0	0.4	2.13	3.3	0.7	1.89
05/03/98	2.9	2.1	2.48	6.0	1.2	3.04	3.8	0.9	1.98
05/04/98	3.1	2.2	2.64	6.3	1.0	3.48	4.1	0.9	2.16
05/05/98	3.1	2.4	2.81	6.1	2.1	4.16	3.8	1.0	2.18
05/06/98	3.3	2.7	2.98	6.1	3.4	5.02	3.6	1.2	2.22
05/07/98	3.3	2.7	3.01	6.9	4.1	5.32	3.8	1.2	2.34
05/08/98	3.3	2.9	3.12	7.1	4.3	5.50	3.8	1.4	2.48
05/09/98	3.4	2.7	3.09	8.8	4.3	6.23	5.0	1.5	3.08
05/10/98	3.6	2.9	3.26	10.0	4.5	7.06	5.6	1.5	3.37
05/11/98	3.8	3.3	3.48	10.2	6.1	8.05	5.0	2.1	3.48
05/12/98	3.8	3.4	3.56	11.7	8.0	9.67	4.7	2.4	3.38
05/13/98	3.3	2.9	3.11	11.1	8.6	9.70	4.0	2.2	2.96
05/14/98	3.3	2.6	2.90	10.0	7.1	8.52	4.0	2.1	2.94
05/15/98	3.6	3.1	3.35	9.4	6.7	8.12	4.7	2.2	3.40
05/16/98	3.8	3.3	3.47	10.2	7.1	8.82	5.8	2.6	4.03
05/17/98	3.8	3.4	3.60	11.9	8.8	10.29	5.2	2.9	3.89
05/18/98	3.8	2.9	3.40	13.0	8.2	10.39	5.6	2.2	3.77
05/19/98	4.0	3.1	3.50	12.6	8.6	10.60	5.8	2.6	4.06
05/20/98	3.8	3.1	3.44	11.9	8.0	10.08	6.0	2.6	4.12
05/21/98	3.6	3.6	3.69	11.3	9.0	10.14	5.2	3.1	4.13
05/22/98	4.0	3.6	3.78	10.4	8.0	9.27	5.6	3.1	4.35
05/23/98	4.1	3.6	3.90	11.1	8.6	9.86	6.3	3.3	4.76
05/24/98	4.1	3.8	3.98	12.1	9.6	10.57	6.9	3.8	5.20
05/25/98	4.1	4.0	4.02	9.2	6.3	7.77	6.0	3.8	4.85
05/26/98				5.8	2.9	4.25	6.7	3.1	4.68
05/27/98				6.1	4.0	4.83	7.7	4.5	6.07
05/28/98				6.1	5.0	5.55	8.0	5.2	6.58
05/29/98				6.3	5.2	5.79	8.8	5.8	7.20
05/30/98	5.8	4.9	5.25	7.1	6.1	6.53	9.0	6.3	7.77
05/31/98	6.5	5.0	5.68	8.0	6.3	7.08	9.6	7.3	8.38
06/01/98	5.8	4.9	5.23	8.0	7.3	7.57	8.2	6.5	7.53
06/02/98	6.0	4.3	5.13	8.4	7.5	7.89	9.2	6.9	8.05
06/03/98	6.7	4.5	5.39	9.2	7.8	8.38	10.0	7.7	8.66
06/04/98	6.7	4.3	5.28	9.8	8.4	8.98	10.4	7.1	8.71
06/05/98	7.3	4.5	5.53	10.2	9.0	9.45	10.9	7.8	9.34
06/06/98	6.9	5.0	5.79	10.2	9.4	9.78	11.5	8.8	10.12
06/07/98	7.3	5.2	6.00	10.7	9.8	10.20	12.1	9.0	10.52
06/08/98	7.7	5.6	6.38	11.3	10.2	10.69	12.6	9.6	11.09
06/09/98	6.7	6.1	6.33	11.1	10.9	10.98	11.3	10.2	10.81
06/10/98	7.1	5.8	6.39	11.5	10.7	11.12	11.1	9.6	10.40
06/11/98	6.9	5.6	6.17	11.3	11.1	11.18	9.8	8.2	9.01
06/12/98	7.6	5.2	6.20	10.9	9.8	10.45	11.1	7.3	9.06
06/13/98	8.6	5.6	6.79	11.3	10.2	10.75	11.9	8.0	9.84
06/14/98	7.5	6.5	6.88	11.5	10.9	11.22	10.0	8.8	9.38
06/15/98	7.7	6.0	6.80	11.3	10.4	10.91	9.8	8.2	8.97
06/16/98	8.0	6.0	6.78	11.3	10.7	11.03	10.2	8.2	9.22
06/17/98	8.4	6.1	6.91	11.9	10.9	11.37	10.7	8.6	9.64
06/18/98	8.0	6.3	6.90	11.7	11.5	11.58	10.2	9.0	9.53
06/19/98	8.6	6.1	7.05	12.1	11.3	11.67	12.4	8.4	10.12
06/20/98	9.8	6.1	7.55	13.0	11.7	12.20	13.9	9.0	11.21
06/21/98	10.2	6.3	7.80	13.5	12.1	12.72	14.4	9.8	11.91
06/22/98	8.8	7.3	7.87	13.5	12.8	13.08	12.4	10.9	11.55
06/23/98	8.6	6.3	7.35	13.0	11.9	12.44	12.1	9.4	10.67
06/24/98	10.4	6.7	7.91	13.0	11.5	12.35	12.6	9.4	10.75
06/25/98	8.6	6.7	7.51	12.8	12.1	12.61	12.1	9.4	10.64
06/26/98	9.2	6.7	7.60	13.0	12.4	12.74	11.7	9.6	10.70
06/27/98	10.2	6.5	7.86	13.3	11.9	12.73	13.5	9.2	10.96
06/28/98	10.9	6.9	8.24	13.9	12.1	13.03	13.7	9.4	11.46
06/29/98	9.8	7.7	8.50	14.6	13.7	14.11	13.5	10.9	12.24
06/30/98	10.4	7.8	8.78	15.3	14.2	14.77	14.2	11.5	12.62



Table 4. WATER TEMPERATURES ( C ) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1998 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
07/01/98	11.1	8.2	9.14	15.1	14.6	14.85	13.0	11.5	12.28
07/02/98	11.1	8.4	9.22	15.8	14.6	15.19	15.3	11.5	13.11
07/03/98	10.7	7.8	8.88	16.1	14.9	15.62	16.3	11.9	13.89
07/04/98	12.4	7.8	9.19	16.1	14.9	15.39	14.2	12.4	13.37
07/05/98	11.3	8.4	9.27	15.8	15.1	15.46	14.9	11.9	13.18
07/06/98	11.1	8.2	8.99	16.3	15.1	15.81	14.6	11.9	13.07
07/07/98	9.2	7.7	8.28	16.1	13.9	14.75	13.5	11.5	12.36
07/08/98	9.8	7.1	7.93	14.6	12.6	13.68	13.9	10.0	11.87
07/09/98	10.2	7.1	8.10	14.9	12.8	14.02	14.2	10.4	12.30
07/10/98	10.0	7.7	8.40	15.8	14.6	15.15	14.9	11.5	12.97
07/11/98	8.8	7.5	8.00	15.6	14.2	14.58	13.3	11.5	12.30
07/12/98	8.8	7.3	7.92	14.4	12.6	13.34	13.0	10.7	11.83
07/13/98	8.8	7.3	7.83	13.3	11.9	12.54	12.6	10.4	11.40
07/14/98	8.8	7.3	7.76	12.6	11.5	12.06	12.1	10.2	11.01
07/15/98	9.2	6.9	7.82	12.4	10.9	11.71	13.0	9.6	11.23
07/16/98	8.4	7.3	7.89	12.6	12.1	12.40	11.9	10.4	11.17
07/17/98	9.6	7.8	8.68	13.7	12.6	13.10	13.0	10.9	11.81
07/18/98	9.6	6.9	8.02	13.9	11.3	12.75	13.9	9.8	11.85
07/19/98	9.6	7.8	8.68	14.2	13.5	13.84	13.7	11.3	12.30
07/20/98	10.7	7.7	8.63				13.9	10.0	11.74
07/21/98	9.6	7.5	8.44				14.2	10.2	11.99
07/22/98	10.2	7.3	8.44				14.9	10.2	12.53
07/23/98	10.0	7.8	8.71				14.9	11.9	13.34
07/24/98	10.7	8.0	8.85				14.9	11.9	13.44
07/25/98	11.3	7.8	9.02				17.1	11.9	14.22
07/26/98	11.7	8.0	9.29				17.8	12.4	14.77
07/27/98	11.7	8.0	9.39				16.8	12.8	14.71
07/28/98	12.4	8.0	9.60				17.8	12.6	15.04
07/29/98	12.8	8.6	9.90				18.6	13.5	15.93
07/30/98	13.0	8.2	9.82				17.8	13.0	15.51
07/31/98	13.5	8.0	9.99				17.1	12.6	15.06
08/01/98	13.0	8.8	10.05	Dry			17.8	13.3	15.55
08/02/98	13.5	7.7	9.63				17.1	11.9	14.75
08/03/98	13.9	7.8	10.01				16.6	12.4	14.73
08/04/98	14.6	8.6	10.65				17.6	13.7	15.69
08/05/98	10.7	9.0	9.88				16.3	13.7	14.80
08/06/98	10.4	8.6	9.58				14.9	11.7	13.46
08/07/98	10.0	8.2	8.97				15.1	12.4	13.88
08/08/98	9.0	8.0	8.59				14.2	12.1	12.97
08/09/98	10.0	8.2	8.93				14.6	11.7	13.14
08/10/98	9.6	7.8	8.58				15.1	10.9	13.09
08/11/98	8.6	7.7	8.21				13.0	10.7	11.74
08/12/98	10.0	8.0	8.85				15.1	10.9	12.83
08/13/98	10.2	8.0	8.95				15.6	11.7	13.81
08/14/98	9.6	8.2	8.78				14.6	12.8	13.92
08/15/98	9.8	8.4	8.93				14.2	11.5	12.88
08/16/98	9.8	8.4	8.92				13.9	11.7	12.89
08/17/98	10.2	8.4	9.00				16.3	12.1	14.01
08/18/98	10.9	8.4	9.18				16.8	12.6	14.79
08/19/98	10.7	7.8	8.90				16.6	12.6	14.85
08/20/98	10.0	7.8	8.87				15.6	12.8	14.36
08/21/98	10.7	8.0	9.04				16.8	13.0	14.98
08/22/98	11.1	8.0	9.19				16.6	12.8	14.70
08/23/98	11.1	8.0	9.15				15.8	12.8	14.52
08/24/98	10.4	8.0	9.03				14.2	11.9	13.12
08/25/98	9.6	8.6	9.04				13.0	11.9	12.55
08/26/98	9.2	7.5	8.35				11.9	10.2	11.12
08/27/98	9.6	7.8	8.51				12.1	10.0	11.03
08/28/98	10.9	8.0	8.96				13.7	10.2	11.77
08/29/98	11.1	7.7	9.00				13.5	10.2	11.86
08/30/98	10.4	7.1	8.57				13.3	9.6	11.67
08/31/98	11.9	8.0	9.48				14.4	10.7	12.42

Table 4. WATER TEMPERATURES ( C) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1998 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
09/01/98	11.9	8.8	10.23				13.7	11.7	12.75
09/02/98	10.9	8.0	9.35				13.0	11.1	12.13
09/03/98	9.0	6.0	7.46				10.7	8.4	9.75
09/04/98	9.2	5.2	7.03				10.0	7.3	8.75
09/05/98	9.4	5.2	7.13				11.1	7.3	9.20
09/06/98	8.6	7.8	8.19				10.2	9.2	9.58
09/07/98	8.6	7.7	8.10	11.3	8.8	9.93	10.2	8.2	9.14
09/08/98	7.8	6.9	7.43	10.0	7.3	8.50	10.0	7.5	8.62
09/09/98	7.7	6.3	7.03	8.4	6.3	7.49	8.4	6.5	7.66
09/10/98	7.8	6.9	7.39	8.8	7.1	7.98	8.0	7.1	7.55
09/11/98	7.8	7.3	7.62	9.8	8.0	8.81	9.0	7.5	8.14
09/12/98	8.2	7.3	7.64	10.7	7.8	9.03	9.4	7.5	8.39
09/13/98	7.8	7.1	7.43	9.4	7.3	8.27	8.4	6.7	7.75
09/14/98	7.7	6.3	6.88	8.4	6.1	7.11	8.2	6.1	7.03
09/15/98	7.3	5.6	6.36	7.5	4.7	6.18	7.7	5.0	6.40
09/16/98	7.5	6.1	6.74		6.0			6.0	
09/17/98	7.1	5.4	6.20						
09/18/98	7.3	5.2	6.20						
09/19/98	8.2	5.0	6.34						
09/20/98	8.0	4.7	6.08						
09/21/98	8.0	4.9	6.14						
09/22/98	7.8	4.9	6.08						
09/23/98	8.0	5.2	6.40						
09/24/98	7.8	5.8	6.75						
09/25/98	7.8	6.0	6.77						
09/26/98	9.0	5.8	6.90						
09/27/98	8.8	5.8	7.10						
09/28/98	7.5	5.0	6.03						
09/29/98	7.8	4.5	5.94						
09/30/98	8.0	6.3	7.04						
10/01/98	7.8	6.7	7.20						
10/02/98	6.9	6.3	6.58						
10/03/98	6.9	6.1	6.39						
10/04/98	7.3	5.6	6.33						
10/05/98	5.8	4.0	5.11						
10/06/98	6.5	5.2	5.89						
10/07/98	6.0	4.9	5.30						
10/08/98	5.2	4.7	4.96						
10/09/98	4.9	4.1	4.63						
10/10/98	5.6	4.5	4.92						
10/11/98	4.9	4.1	4.57						
10/12/98	4.9	4.1	4.60						
10/13/98	4.9	4.0	4.47						
10/14/98	4.3	3.6	4.05						
10/15/98	4.1	3.3	3.79						
10/16/98	4.5	3.3	3.92						
10/17/98	4.7	3.6	4.19						
10/18/98	4.7	3.3	3.94						
10/19/98	4.9	4.0	4.46						
10/20/98	5.0	3.8	4.50						
10/21/98	5.2	4.3	4.63						
10/22/98	5.0	4.0	4.42						
10/23/98	4.7	3.8	4.17						
10/24/98	4.3	3.4	3.98						
10/25/98	5.4	4.1	4.68						
10/26/98	5.2	4.5	4.83						
10/27/98	5.0	4.7	4.84						
10/28/98	4.7	3.8	4.27						
10/29/98	4.1	3.4	3.67						
10/30/98	4.3	3.6	4.00						
10/31/98	4.3	4.0	4.17						

Table 4. WATER TEMPERATURES ( C ) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1998 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
11/01/98	5.0	4.3	4.56						
11/02/98	4.9	4.5	4.67						
11/03/98	4.7	4.5	4.53						
11/04/98	4.7	4.3	4.48						
11/05/98	4.7	4.3	4.48						
11/06/98	4.5	4.1	4.35						
11/07/98	4.5	3.8	4.10						
11/08/98	4.3	3.8	4.02						
11/09/98	3.6	2.9	3.20						
11/10/98	3.6	3.1	3.27						
11/11/98	3.6	3.1	3.31						
11/12/98	3.8	3.3	3.55						
11/13/98	3.6	2.7	3.15						
11/14/98	3.4	3.1	3.23						
11/15/98	3.1	2.7	3.03						
11/16/98	2.9	2.6	2.70						
11/17/98	2.9	2.6	2.79						
11/18/98	3.1	2.6	2.83						
11/19/98	3.1	2.7	2.95						
11/20/98	3.3	2.7	3.11						
11/21/98	3.4	2.7	3.08						
11/22/98	2.9	2.4	2.70						
11/23/98	2.9	2.2	2.43						
11/24/98	2.9	1.9	2.48						
11/25/98	2.9	1.9	2.58						
11/26/98	2.9	1.9	2.65						
11/27/98	2.6	2.1	2.25						
11/28/98	2.4	2.1	2.25						
11/29/98	2.6	2.2	2.46						
11/30/98	2.6	2.4	2.43						
12/01/98	2.4	1.7	2.23						
12/02/98	2.4	2.1	2.21						
12/03/98	2.4	2.1	2.18						
12/04/98	2.2	1.9	2.04						
12/05/98	2.4	1.7	2.00						
12/06/98	2.2	1.7	1.95						
12/07/98	2.4	2.1	2.15						
12/08/98	2.1	1.9	2.08						
12/09/98	2.2	1.7	2.12						
12/10/98	2.2	1.7	2.02						
12/11/98	2.2	1.9	2.10						
12/12/98	2.2	1.9	2.12						
12/13/98	2.2	1.5	1.88						
12/14/98	2.1	1.7	1.95						
12/15/98	2.1	1.9	2.04						
12/16/98	2.1	1.5	1.88						
12/17/98	1.9	1.9	1.90						
12/18/98	1.9	1.4	1.58						
12/19/98	1.5	1.4	1.44						
12/20/98	1.9	1.5	1.72						
12/21/98	1.7	1.7	1.70						
12/22/98	1.7	1.7	1.70						
12/23/98	1.7	1.7	1.70						
12/24/98	1.7	1.7	1.70						
12/25/98	1.7	1.5	1.68						
12/26/98	1.5	1.5	1.50						
12/27/98	1.7	1.5	1.63						
12/28/98	1.5	1.4	1.50						
12/29/98	1.5	1.5	1.50						
12/30/98	1.7	1.4	1.54						
12/31/98	1.7	1.2	1.54						

Table 4. WATER TEMPERATURES ( C) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1996 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
01/01/99	1.7	1.5	1.59						
01/02/99	1.9	1.5	1.70						
01/03/99	1.9	1.5	1.74						
01/04/99	1.9	1.9	1.90						
01/05/99	2.1	1.7	1.87						
01/06/99	1.7	1.5	1.63						
01/07/99	1.7	1.5	1.60						
01/08/99	1.7	1.5	1.56						
01/09/99	1.7	1.5	1.52						
01/10/99	1.7	1.5	1.63						
01/11/99	1.7	1.7	1.70						
01/12/99	1.9	1.5	1.68						
01/13/99	1.9	1.5	1.71						
01/14/99	1.9	1.5	1.81						
01/15/99	1.9	1.5	1.70						
01/16/99	1.7	1.5	1.68						
01/17/99	1.7	1.5	1.51						
01/18/99	1.7	1.4	1.59						
01/19/99	1.7	1.5	1.53						
01/20/99	1.5	1.4	1.43						
01/21/99	1.7	1.4	1.54						
01/22/99	1.5	1.4	1.48						
01/23/99	1.4	1.2	1.22						
01/24/99	1.4	1.2	1.33						
01/25/99	1.4	1.4	1.40						
01/26/99	1.4	1.4	1.40						
01/27/99	1.5	1.4	1.41						
01/28/99	1.5	1.5	1.50						
01/29/99	1.5	1.4	1.49						
01/30/99	1.5	1.4	1.48						
01/31/99	1.5	1.4	1.49						
02/01/99	1.4	1.2	1.35						
02/02/99	1.4	1.2	1.24						
02/03/99	1.4	1.4	1.40						
02/04/99	1.4	1.4	1.40						
02/05/99	1.4	1.4	1.40						
02/06/99	1.4	1.4	1.40						
02/07/99	1.4	1.2	1.38						
02/08/99	1.4	1.4	1.40						
02/09/99	1.4	1.2	1.26						
02/10/99	1.2	1.2	1.20						
02/11/99	1.2	1.2	1.20						
02/12/99	1.5	1.2	1.38						
02/13/99	1.5	1.4	1.43						
02/14/99	1.4	1.2	1.33						
02/15/99	1.2	1.2	1.20						
02/16/99	1.4	1.2	1.25						
02/17/99	1.4	1.2	1.32						
02/18/99	1.4	1.2	1.38						
02/19/99	1.4	1.2	1.31						
02/20/99	1.4	1.2	1.34						
02/21/99	1.4	1.0	1.30						
02/22/99	1.4	1.2	1.37						
02/23/99	1.5	1.2	1.30						
02/24/99	1.4	1.0	1.28						
02/25/99	1.7	1.4	1.45						
02/26/99	1.4	0.9	1.01						
02/27/99	1.0	0.9	0.95						
02/28/99	0.9	0.7	0.77						

Table 4. WATER TEMPERATURES ( C ) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1996 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
03/01/99	0.9	0.7	0.78						
03/02/99	0.9	0.9	0.90						
03/03/99	0.9	0.9	0.90						
03/04/99	0.9	0.9	0.90						
03/05/99	1.0	0.7	0.87						
03/06/99	0.7	0.5	0.58						
03/07/99	0.9	0.7	0.74						
03/08/99	0.9	0.9	0.90						
03/09/99	0.9	0.9	0.90						
03/10/99	0.9	0.9	0.90						
03/11/99	0.9	0.9	0.90						
03/12/99	0.9	0.9	0.90						
03/13/99	0.9	0.9	0.90						
03/14/99	0.9	0.9	0.90						
03/15/99	0.9	0.7	0.81						
03/16/99	0.9	0.9	0.90						
03/17/99	0.9	0.5	0.69						
03/18/99	0.7	0.7	0.70						
03/19/99	0.7	0.5	0.69						
03/20/99	0.7	0.7	0.70						
03/21/99	0.9	0.7	0.84						
03/22/99	0.7	0.5	0.64						
03/23/99	0.7	0.5	0.66						
03/24/99	0.7	0.5	0.53						
03/25/99	0.5	0.5	0.50						
03/26/99	0.5	0.5	0.50						
03/27/99	0.5	0.4	0.48						
03/28/99	0.7	0.5	0.52						
03/29/99	0.9	0.5	0.71						
03/30/99	0.7	0.7	0.70						
03/31/99	0.7	0.7	0.70						
04/01/99	0.7	0.5	0.69						
04/02/99	0.7	0.7	0.70						
04/03/99	0.7	0.7	0.70						
04/04/99	0.7	0.7	0.70						
04/05/99	0.7	0.7	0.70						
04/06/99	0.7	0.7	0.70						
04/07/99	0.7	0.7	0.70						
04/08/99	0.7	0.7	0.70						
04/09/99	0.7	0.7	0.70						
04/10/99	0.7	0.7	0.70						
04/11/99	0.7	0.5	0.64						
04/12/99	0.5	0.5	0.50						
04/13/99	0.7	0.5	0.62						
04/14/99	0.7	0.5	0.66						
04/15/99	0.5	0.4	0.50						
04/16/99	1.9	0.4	0.82						
04/17/99	1.9	0.9	1.20						
04/18/99	1.7	1.0	1.32						
04/19/99	2.1	1.2	1.41						
04/20/99	1.7	1.2	1.40						
04/21/99	2.7	1.2	1.70						
04/22/99	3.3	1.4	2.07						
04/23/99	2.6	1.5	2.00						
04/24/99	2.2	1.0	1.78						
04/25/99	2.2	0.7	1.37						
04/26/99	2.7	1.2	1.89						
04/27/99	3.6	1.9	2.74						
04/28/99	4.0	2.4	3.15						
04/29/99	4.3	2.6	3.25						
04/30/99	4.0	2.7	3.32						

Table 4. WATER TEMPERATURES ( C ) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1996 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
05/01/99	4.1	2.7	3.31						
05/02/99	5.2	2.7	3.66						
05/03/99	4.9	2.2	3.48						
05/04/99	5.4	2.7	3.54						
05/05/99	5.2	2.7	3.60						
05/06/99	4.7	1.9	3.43						
05/07/99	3.3	0.9	1.92						
05/08/99	3.8	1.7	2.63						
05/09/99	4.7	2.2	3.18						
05/10/99	4.9	2.2	3.29						
05/11/99	4.5	2.7	3.56						
05/12/99	5.4	2.7	3.72						
05/13/99	5.2	3.1	3.63						
05/14/99	5.2	2.9	3.81						
05/15/99	4.9	3.1	3.81						
05/16/99	4.5	2.6	3.44						
05/17/99	5.4	2.2	3.46						
05/18/99	4.7	2.7	3.37						
05/19/99	4.5	2.6	3.39						
05/20/99	4.1	2.7	3.41						
05/21/99	4.5	2.7	3.58						
05/22/99	3.4	2.9	3.18						
05/23/99	4.3	2.9	3.53						
05/24/99	4.5	3.8	4.07						
05/25/99	5.2	4.0	4.35						
05/26/99	4.3	4.0	4.13						
05/27/99	5.4	3.8	4.27						
05/28/99	5.0	4.0	4.35						
05/29/99	6.1	3.8	4.65						
05/30/99	5.0	4.1	4.55						
05/31/99	5.2	4.0	4.45						
06/01/99	5.6	4.0	4.58						
06/02/99	6.1	4.1	4.83	6.1					
06/03/99	6.0	4.0	4.70	5.6	4.0	4.66			
06/04/99	4.7	4.0	4.36	4.5	4.3	4.33			
06/05/99	5.2	4.1	4.44	4.7	3.1	4.00			
06/06/99	4.9	4.0	4.36	4.9	4.1	4.47			
06/07/99	4.5	4.0	4.16	4.9	4.3	4.50			
06/08/99	6.5	4.0	4.76	5.6	4.0	4.73			
06/09/99	5.2	4.1	4.56	5.0	4.1	4.56			
06/10/99	6.5	4.0	4.98	6.0	3.6	4.61			
06/11/99	6.3	4.0	4.79	6.3	3.4	4.47			
06/12/99	6.0	3.4	4.49	6.5	2.9	4.24			
06/13/99	4.5	3.1	3.73	4.9	3.3	3.96			
06/14/99	5.6	3.4	4.25	6.1	3.4	4.48			
06/15/99	6.0	3.3	4.42	6.7	3.4	4.76			
06/16/99	5.6	3.6	4.35	6.0	4.0	4.66			
06/17/99	5.6	3.6	4.49	6.0	3.4	4.57			
06/18/99	5.2	4.0	4.55	5.6	4.1	4.66			
06/19/99	5.4	4.1	4.71	5.8	4.1	4.81			
06/20/99	4.9	4.0	4.44	5.0	4.0	4.50			
06/21/99	5.6	3.8	4.67	6.1	3.6	4.84			
06/22/99	5.6	4.3	4.94	6.0	4.3	5.13			
06/23/99	6.0	4.3	5.20	6.5	4.3	5.46			
06/24/99	6.7	4.7	5.60	7.5	4.7	5.95			
06/25/99	6.7	4.9	5.75	7.3	4.9	6.02			
06/26/99	5.8	5.2	5.46	6.3	5.2	5.73			
06/27/99	6.1	4.7	5.38	6.5	4.7	5.50			
06/28/99	5.6	4.7	5.25	6.1	4.9	5.54			
06/29/99	5.8	5.0	5.46	6.1	5.4	5.63			
06/30/99	6.0	5.0	5.57	6.3	5.2	5.82			



Table 4. WATER TEMPERATURES ( C ) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1996 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
07/01/99	6.0	5.0	5.57	6.1	5.2	5.75			
07/02/99	6.3	5.2	5.77	6.5	5.4	6.00			
07/03/99	7.1	4.9	6.05	7.1	5.2	6.29			
07/04/99	7.3	5.6	6.55	7.3	6.3	6.95			
07/05/99	7.8	6.0	6.91	8.0	6.3	7.25			
07/06/99	8.0	6.0	7.08	8.2	6.3	7.37			
07/07/99	7.5	6.0	6.78	8.2	7.1	7.68			
07/08/99	7.8	6.3	6.94	9.4	7.7	8.41			
07/09/99	7.7	6.0	6.84	9.2	7.3	8.40			
07/10/99	7.5	6.5	7.01	9.4	8.6	9.02			
07/11/99	7.5	6.7	7.15	10.2	9.2	9.62			
07/12/99	7.3	6.3	6.88	10.2	8.6	9.43			
07/13/99	7.1	6.5	6.73	9.8	9.0	9.34			
07/14/99	6.7	6.1	6.43	9.2	8.6	8.95			
07/15/99	7.1	5.8	6.41	9.8	8.8	9.36			
07/16/99	7.5	5.4	6.37	9.8	8.4	9.27			
07/17/99	7.5	6.0	6.57	10.9	9.6	10.08			
07/18/99	8.8	6.1	7.11	12.1	10.2	10.96			
07/19/99	8.8	7.1	7.79	12.8	11.1	11.88			
07/20/99	8.0	7.1	7.48	13.0	11.9	12.30			
07/21/99	8.6	6.7	7.69	13.3	12.1	12.51			
07/22/99	7.7	7.1	7.48	12.6	12.1	12.43			
07/23/99	8.4	6.5	7.25	13.0	11.5	12.18			
07/24/99	8.0	6.5	7.03	12.6	11.1	11.83			
07/25/99	7.5	6.5	7.01	11.9	11.1	11.53			
07/26/99	8.4	6.7	7.34	13.3	11.3	11.97			
07/27/99	7.5	7.1	7.32	12.6	12.1	12.44			
07/28/99	8.6	7.3	7.98	12.6	12.4	12.42			
07/29/99	8.6	7.7	8.04	12.4	11.1	11.73			
07/30/99	8.6	7.1	7.69	12.8	11.1	11.88			
07/31/99	8.0	6.7	7.35	12.1	11.3	11.82			
08/01/99	8.4	6.7	7.40	13.5	10.9	12.06			
08/02/99	8.4	6.5	7.39	14.2	11.5	12.71			
08/03/99	8.8	6.7	7.57	14.9	12.1	13.37			
08/04/99	9.2	7.1	7.94	16.6	13.5	14.73			
08/05/99	9.4	7.5	8.23	17.8	14.9	16.01			
08/06/99	9.0	7.7	8.28	16.8	15.3	16.10			
08/07/99	10.0	8.2	8.94	18.1	15.6	16.42			
08/08/99	9.0	7.8	8.38	16.8	15.6	16.17			
08/09/99	8.6	7.8	8.19	15.8	13.9	14.72			
08/10/99	9.0	7.5	8.11	14.4	12.4	13.23			
08/11/99	8.0	7.7	7.87	13.7	12.8	13.10			
08/12/99	8.4	7.7	8.00	13.3	12.1	12.69			
08/13/99	8.6	7.5	7.97	13.5	11.5	12.40			
08/14/99	8.4	7.3	7.84	13.3	11.3	12.16			
08/15/99	8.6	7.5	7.95	12.8	11.9	12.40			
08/16/99	9.0	7.7	8.19	14.4	11.9	13.04			
08/17/99	9.4	7.7	8.34	14.6	12.8	13.72			
08/18/99	10.0	8.0	8.66	17.3	13.7	15.07			
08/19/99	10.2	7.8	8.72	17.6	13.7	15.50			
08/20/99	10.2	7.5	8.67	16.3	12.6	14.58			
08/21/99	9.8	8.0	8.73	15.8	14.2	14.92			
08/22/99	9.2	7.7	8.34	13.9	12.1	13.09			
08/23/99	8.8	7.8	8.30	13.3	12.4	12.83			
08/24/99	9.2	8.0	8.43	12.8	9.6	10.89			
08/25/99	9.0	8.0	8.31	10.4	9.4	9.84			
08/26/99	8.0	7.3	7.70	10.2	8.2	8.78			
08/27/99	8.0	7.5	7.78	8.6	8.0	8.23			
08/28/99	8.6	7.7	8.03	8.8	8.2	8.56			
08/29/99	8.0	7.5	7.79	9.2	8.8	8.96			
08/30/99	8.2	7.3	7.58	8.8	7.7	8.18			
08/31/99	8.2	7.3	7.64	8.6	7.7	8.25			

Table 4. WATER TEMPERATURES ( C) FORFAR and KYNOCH CREEKS, OFF CHANNEL STATIONS, 1996 to 1999.

DATE	FORFAR OFF CHAN UPPER			FORFAR OFF CHAN LOWER			KYNOCH OFF CHAN LOWER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
09/01/99	8.0	6.9	7.42	8.4	7.1	7.73			
09/02/99	7.8	6.7	7.27	7.8	6.7	7.38			
09/03/99	8.0	6.7	7.34	7.7	6.9	7.39			
09/04/99	8.0	7.3	7.56	8.6	7.7	7.99			
09/05/99	8.0	7.7	7.79	9.0	8.4	8.69			
09/06/99	8.0	7.5	7.73	8.8	8.2	8.53			
09/07/99	7.8	7.3	7.57	8.6	7.3	7.90			
09/08/99	7.8	7.5	7.65	8.2	7.7	7.92			
09/09/99		7.5			8.0				